

Falconer.

The Baths of Bath

&c.



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From the Author 1000,

THE BATHS
AND
MINERAL WATERS
OF BATH.

BY
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Phys. to the Bath General or Mineral Water Hospital ; etc.*

Sixth Edition.

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MDCCCLXXX.

—— a seething bath, which yet men prove
Against strange maladies a sovereign cure.

Shakesp. Son. cliii.

“FOR IF THEY BE ABLE TO HELP MENNIS DISEASES :
WHAT SHALL MEN NEDE TO GO INTO FARRE COUNTREES TO
SEKE THAT REMEDY THERE WHYCHE THEY MAY HAVE AT
HOME ? ”

“ Of the bathe of Baeth in England.”

Dr. TURNER, fol. 1, MDLXVIII.

THE following pages contain a description of the admirable and extensive arrangements provided by the Corporation of Bath for the employment of the MINERAL WATERS OF BATH ; together with brief notices of their impregnations and medicinal uses, and of the Bath General and Mineral Water Hospital ; the whole being prefaced with a general account of the early history of the Mineral Waters and Baths of Bath.

The original plans which illustrate this work were presented to me by the late Messrs. MANNERS AND GILL, Architects, which have since been kindly corrected by Mr. C. E. DAVIS, the City Architect, so as to shew the improvements which have been made from time to time in the Corporation Bathing Establishments.

TO MESSRS. WILSON AND WILLCOX my thanks are also due for the plans of the New Royal Private Baths, erected by them, at the cost of the Corporation, and are connected with the Grand Pump Room Hotel.

R. W. F.

22, *Bennett Street, Bath ;*
June, 1880.

*A list of some Authors of Works on the Bath Waters
from 1557 to 1857:—*

From 1557 to 1607.—W. Turner, M.D.; John Jones, M.D.

From 1607 to 1657.—Tobias Venner, M.D.; E. Jorden, M.D.; T. Johnson, M.D.

From 1657 to 1707.—Thos. Guidott, M.B.; H. Chapman; R. Pugh; E. Pratt,
M.D.; H. Stubbe; R. Picree, M.D.; J. Maplet, M.D.;
&c., &c.

From 1707 to 1757.—J. Quinton, M.D.; W. Oliver, M.D.; G. Cheyne, M.D.;
J. Wynter, M.D.; D. Kinneir, M.D.; J. Summers,
M.D.; G. Randolph, M.D.; T. Smollett, M.D.; R.
Charleston, M.D.; W. Baylies, M.D., &c., &c.

From 1757 to 1807.—A. Sutherland, M.D.; J. N. Stevens, M.D.; J. Rutty;
C. Lucas, M.D.; William Falconer, M.D.; Sir E.
Barry, M.D.; D. Lysons, M.D.; J. Elliott, M.D.;
W. Corp, M.D.; A. Wilson, M.D.; Sir Geo. S.
Gibbes, M.D., &c.


From 1807 to 1857.—Wm. Falconer, M.D.; C. H. Wilkinson, M.D.; E.
Barlow, M.D.; J. G. Mansford, M.R.C.S.; J. H.
Spry, M.D.; A. B. Granville, M.D.; J. Tunstall,
M.D., &c.

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 „ II.—King's and Queen's Public Baths.
 „ III.—The Royal Private Baths and Hot Bath.
 „ IV.—The Cross Bath. The Kingston Baths.
 „ V.—New Royal Private Baths.



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INTRODUCTION.

No statement deserving of credit has been preserved regarding the discovery of the Hot Mineral Waters of Bath. The account given by *Jones*, in his *Bathes of Bathes Ayde*, which attributes their creation to "Bladudus Magus, that wyse Magicyan;" and also *Wood's* statement in his *Description of Bath*, which declares their detection to have been effected by Bladud and his swine;—are examples of those legendary histories, with which it is attempted to supply the want of authentic records. If any truth exists in such legends, it is generally extremely difficult to disentangle it from what is fictitious.

It is thought by some, whose opinions are entitled to respect, that a British settlement once occupied the site of the present town of Bath, and that through the obscurity which envelopes its history, the outlines of an extensive city are traceable, which was distinguished above all those of the West; and hence, it is inferred as probable that its inhabitants did not neglect the mineral waters of the locality.

It is, however, more likely that the British occupied the elevated positions in the neighbourhood, whose remains of their habitations are yet traceable; and that the hot waters of the valley formed a morass, the overflowings of which were poured into the river Avon; still, it must be conceded that if they did inhabit the valley, all indications of their dwellings would be eradicated by subsequent occupants.

The period at which the history of Bath and the Bath Waters can be truly said to commence, is with the Roman occupation of the locality of the present city, which, according to *Warner*, was A.D. 54, or subsequent to A.D. 50 in the opinion of *Whitaker*, and lasted until A.D. 410. The presence of the Romans is indicated by many remarkable remains of their workmanship, which have been found and preserved, and among these are the ruins of buildings of magnitude and great beauty, erected in various parts of the neighbourhood, as well as in the immediate vicinity of the springs,

portions of which contribute to form one of the richest and most interesting collections of Roman Antiquities in England,* among which attention may be specially directed to the remains of a temple found beneath the site of the present Pump-Room.† These, however, are but the remains of a still larger collection which was in existence more than two centuries ago.

One of the most important discoveries of a Roman building, connected with the use of the hot waters, was the finding in 1755 of the ruins of a Bath, of considerable size, in the position at present occupied by Kingston Buildings and Baths, near the Abbey. These remains were described by *Dr. Lucas*,†† and subsequently by *Dr. Sutherland*,‡ in 1763; and an account of them, which is too extended to admit of quotation, may also be found in *Collinson's History of Somersetshire*, vol. i., p. 9, or in *Warner's History of Bath*, p. 22. Some idea of the size of the building in which the baths were contained may be formed from the statement that "they occupied an area, 240 ft. from east to west, and 120 ft. at the broadest part, from north to south, that they were highly decorated with tessellated pavements, columns, pilasters, and every ornament of classical architecture."§ These baths, it is probable, were destroyed by the Saxons, who succeeded the Romans in their occupation of Bath, and their ruins must subsequently have escaped notice, inasmuch as eight feet below the surface, but still considerably above them, several stone coffins, containing remains of persons of both sexes, and coins from the mints of several Saxon kings,|| were simultaneously discovered. Additional remains of these Baths were discovered in 1799 and in 1803. To this subject it will be necessary again to refer.

The Roman city of Bath is generally believed to have been named *Aquæ Solis*, "Waters of the Sun"; but there is some

* These remains, the property of the Corporation of Bath, are placed under the care of the members of the Bath Royal Literary and Scientific Institution.

† For an account of the ruins of the temple *Vide Scharf Archæolog*: xxxv. p. 190, and *Scarth Aq. Sol.*, p. 19, et. seq.

†† "An Essay on Waters," Part III., p. 222.

‡ "Attempts to revive ancient Medical Doctrines relative to Waters, &c.," Lon., 1763.

§ *Warner's "New Guide through Bath,"* p. 29; 1811.

|| There was a Mint at Bath. *Vide "On Coins issued from Somersetshire Mints,"* by the Rev. T. F. Dymock—*Somersetshire Arch. and Nat. His. Soc.*; Proceed. for 1849-50, p. 12.

foundation for considering that the name may have been *Aquæ Sulis*; the first word in both cases being probably the same as the Celtic *Ac* or *Aeq*, and *Sulis*, from the goddess *Sul*—*Sul*-Minerva, the presiding deity of the Mineral Waters—whose name appears upon several of the altars discovered in Bath.* The names which the Saxons gave to the city founded by the Romans of *Hat Bathun* and *Akemannesceaster*, sufficiently indicate both the nature and efficacy of the waters. It has, however, been recently suggested that in *Ake*, the British pronunciation and orthography of *Aquæ* is found, and that *man* being the British word for *place*, *Akeman* “signified the place known by the name of *Aquæ*,”† and it may be added that in “ceaster” we have the British form of “castrum,” which would point out that the place known by the name of “*Aquæ*” was fortified. What we know of Saxon habits, tends to confirm the belief that they paid considerable attention to the employment of the thermal springs.

“Osric built a monastery at Bath (A.D. 676), and visited its hot waters; and Offa, a century afterwards, made it the residence of his court for some time. Athelstan and Edgar also delighted in the use of its medicinal springs; and indeed almost all the Saxon kings honoured Bath, either with their presence, or enriched it by their munificence.”†† A bath seems to have been provided from very ancient times for the use of royal visitors, since the name *King's Bath* occurs as early as the beginning of the thirteenth century.

John de Villula, Bishop of Bath and Wells, who died in 1122, richly endowed the church of St. Peter (the Abbey) in 1106; and for the convenience of the monastery, built two new baths within its precincts, one of which, called the Abbot's Bath, he gave to the public use, and the other for the prior. “He did not,” says Lucas, “rebuild those of the Romans, the foundation and ruins of which were buried under his palace; but he enclosed the heads of the chief springs then known, with strong though rude cisterns, which remain, with very little improvement, to this day.”‡ Wood states that both the above baths were given to the public; this took place perhaps at a later period. The baths went by the name of the Abbey Baths for some time, and were supplied

* Vide “Civil Wars of Rome, &c.,” by Geo. Long. Series i., p. 86; Notes, p. 239. Scarth's *Aquæ Solis*, p. 41, et. seq.

† Earle's *Bath, Ancient and Modern*, p. 42, 43. 1864. We have also *Ac* in the Pyrenees, from *Aquæ*.

†† Warner's *History of Bath*. p. 316, and note.

‡ “An Essay on Waters,” part iii., pp. 243, 244.

with water from the spring in the King's Bath.* John de Villula, also, erected a considerable edifice for his own residence, which was called the Abbey House (afterwards known as the Royal Lodgings) †—which was demolished in 1755, and its foundations removed, during which process the stone coffins and coins were found, and also the remains of the Roman Baths before mentioned. At this time the spring which supplied the latter baths was accidentally discovered. On the site of the Abbey House, new baths were erected, the building of which, by the Duke of Kingston, were commenced in 1763 or 1764, and completed in 1766, were for some time known as the Abbey, or Roman Baths, at present as the Kingston, or Old Roman Baths, notwithstanding there is not any reason to believe that traces of the latter are to be found, excepting probably the channel through which the hot water is conveyed from the spring to the baths. Derrick, in one of his letters, writing of these baths, says, "They will be of vast utility here; for the other baths, being uncovered, and exposed to all weathers, and every eye, are therefore disagreeable to many people." ‡

In 1138, Robert, Bishop of Bath and Wells, founded a hospital for Lepers, and dedicated it to St. Lazarus, attaching to it at the same time a bath, called the Lepers' or Lazours' Bath; it was supplied by the overflowings of the spring in the Hot Bath, to which it adjoined. Johnson in his work on the Bath Waters, published in 1634, mentions this bath. It was still to be seen, but little used, in 1773; the period at which it was destroyed is uncertain. The Hospital was a small building, furnished with seven beds, situated at the corner of "Nowhere Lane," now Hot Bath Street, and was so near to the bath that the inmates were under little or no difficulty in passing from one to the other. §

The baths remained in the hands of the Priors and Monks of the Benedictine Monastery of Bath, until the dissolution of religious houses in the time of Henry VIII., and in consideration of their receiving the proceeds, which arose from the use of the baths, they were to keep them in repair, fit for the reception of Royalty. In 1235, however, it appears that they neglected their duty, receiving the profits, but leaving the baths to decay, in consequence of which, they were amerced in the sum of £13 11s., the estimated cost of the repair of the King's houses, and of the King's Bath.

* "Leland's Itinerary," by Hearne, vol. ii, p. 38. 1744.

† *Vide* Gilmore's Plan of Bath, with engravings of some of the Principal Edifices. 1694.

‡ Letters, vol. ii., p. 111.

§ Wood, "Description of Bath," vol. 2, p. 306.

Leland, not long before the dissolution, gavo the following account of the Baths:—"There be 2 Springes of whote Wather in the West South West Part of the Towne. Whercof the bigger is caullid tho *Crosse Bath*, bycause it hath a Cross erectid in the midle of it. This *Bath* is much frequentid of People diseasid with Lepre, Pokkes, Scabbes, and great Aches, and is temperate and pleasaut, having a 11 or 12 Arches of Stone in the sides for men to stonde under yn tyme of Reyne. Many be holp by this *Bathe* from Scabbes and Aches.

"The other *Bathe* is a 2 hunderith Foote of, and is lesse in cumpae withyn the Waulle then the other, having but 7 Arches yn the Waulle. This is caullid the *Hote Bathe*; for at cumming into it, Men think that it wold scald the Flesch at the first, but after that the Flesch ys warmid it is more tolerable and pleasaunt.

"Both these *Bathes* be in the midle of a lite streat, and joine to *St. John's Hospitale*; so that it may be thought that *Reginalde*, bishop of *Bathe*, made this Hospitale nere these 2 commune *Bathes* to socour poore people resorting to them.

"The *King's Bathe* is very faire and large, standing almost in the midle of the Toune, and at the West End of the Cathedrale Chirch.

"The area that this *Bathe* is yⁿ is compassid with an high Stone Waulle.

"The Brimmes of this *Bath* hath a litle walle cumpassing them, and in this Waul be a 32 Arches for Men and Women to stand separately yn. To this *Bath* do Gentilmen resort.

"Their goith a sluse out of this *Bath*, and servid in Tymes with Water derivid out of it 2 Plaees in *Bath* Priorie usid for *Bathes*; els voide; for in them be no springes.

"The Colour of the Water of the Baynes is as it were a depe blew Se Water, and rikith like a sething Potte continually, having sumwhat a sulphureus and a sumwhat pleasant savor.

"The Water that rennith from the 2 smaule *Bathes* goit by a Dike into *Avon*, by West bynethe the Bridge.

"The Water that goith from the *Kinge's Bath* turnith a Mylle, and after goith into *Avon* above *Bath*-bridge.

"In all the 3 *Bathes*, a man may evidently se how the Water burbelith up from the Springes."*

In 1542, Henry VIII. granted the "late monastery or priory of Bath," with all the property appertaining to it, to Humphrey Colles and his heirs; Colles disposod of it to Matthew Colthurst,

* Leland's Itin., by Hearne, vol. 2, pp. 30, 31.

whose son, Edmund Colthurst, gave the Abbey and a portion of the land adjoining it, to the Mayor and Citizens of Bath; while the Abbey House and remainder of the property, he sold to Fulk Morley, in 1569, from whom it descended to the Duke of Kingston, and from him to the late and present Earl Manvers—who thus owns the Kingston or old Roman Baths, erected on the spot once occupied by the Abbey House. The King's cross, and Hot Baths appear to have been conveyed with the Abbey to the Mayor and Citizens of Bath.

For a considerable period the Bath waters had enjoyed great celebrity. It appears, however, from the statements made by Dr. William Turner, who succeeded John Goodman, as Dane of Wells, in 1550, in the preface to a work published by him in 1562, entitled "A Booke of the Natures and Properties, as well of the Bathes in England as of other Bathes in Germany and Italye," etc.—that they were neglected, and their condition ruinous. He observes, that "there is enough money spent on cock-fightings, tenes players, parkes, bankettings, pageantes, and playes, serving only for a short time the pleasure oft tymes, but of privat persones which have no nede of them. But I have not hearde tell that any rich man hath spent upon these noble bathes, beyng so profitable for the hole commonwelthe of England, one grote these twintye years." Dr. Turner made several suggestions for the improvement of the baths, and recommended the formation of a bath of the hot water for horses—which was done according to Wood about the year 1597. A large pond was made on the southern side of St. James's Church, without the city walls, near Ham Gate, to receive the waste water of the King's Bath, "and this was for sometime used as a bath for horses, and called the Horse Bath." *

In 1572, Dr. Jones published "The Bathes of Bathes Ayde," in which he proposed to supply the deficiencies in Dr. Turner's book. In speaking of the waters he says—"Seeing that amonge all the most maruallouse workes of nature, there is none more excellent, none more auayleable to the helpe of the diseased, and amendinge of the enfeebled partes of man, then the Bathes naturall of the Cittie of Bath, if they be rightly vsed, orderly obsorued, and as need requireth, frequented," &c.

In 1590, Queen Elizabeth granted a new charter to the city of Bath, wherein she confirms the possession of the water and baths in the following terms: "And whereas the Mayor and Citizens of the aforesaid city now hold, occupy, possess, and enjoy, to thom and their successors, the same city, with the appurtenances, and all the waters and baths there, &c., &c.; Know ye, as of our abundant

grace, certain knowledge, and mere motion, we have granted and confirmed, and by these presents, for us, our heirs, and successors, do grant and confirm to the aforesaid mayor, aldermen, and citizens, and to their successors, all and singular such and the same waters, baths," &c. Shortly after this charter was granted, the corporation of the city rebuilt the Hot and Cross Baths, which had become decayed; and about 1598, Mr. Bellot built the bath adjoining the King's Bath, which, in 1615, was named the Queen's Bath, owing to Anne, the Queen of James I., making use of it. The management, however, of the baths seems to have been neglected by the corporation, and all sorts of irregularities were practised in them, so as to prevent their public utility. In order to correct these abuses, several persons, with whom were associated the members of the corporate body, petitioned King James I. to grant them power to check the irregularities which took place in the baths; but the king's death occurring soon after the presentation of the petition, nothing was done to terminate them; and in 1632, Dr. Jordan, in the second edition of his "Discourse on Naturall Bathes," &c., complains in his preface of still existing annoyances, whereby the baths "are not able to display their virtues, and doe that good for which God hath sent them to us." In 1646, the corporation framed a code of by-laws to remove nuisances, and establish order in the city. These by-laws were confirmed in 1650, after a satisfactory trial had been made of them; "then," says Wood, "people began to flock to Bath for recreation, as well as for the benefit of the waters," and in 1668 we have a notice of them in Pepy's diary:—"June 15th. Looked into the Baths, and find the King's and Queen's full of a mixed sort, of good and bad, and the Cross only almost for gentry, So home with my wife, and did pay my guides, two women, 5s.; one man, 2s. 6d."

The foundation stone of the King and Queen's Private Baths was laid May 10, 1788; on the stone was the following inscription:—

Hygeiæ
Æsculapii Filia
Thermulæ Votivæ
A.C., 1788
Leonardo Coward
Prætoræ Urbano
Publico Sumptu Curatæ
T. Baldwin,
Extruxit.

During the early part of this year, in the course of some alterations made in the neighbourhood of the King's Bath, which necessitated the removal of its stone flooring, a bath below this was discovered. On the 3rd of March, "Mr. G. R. Wright,

F.S.A., read some Notes on a recent discovery of a Roman octagonal bath beneath the modern one in use at Bath, the refuse of water of which is got rid of by a culvert of Roman work" (*The Antiquary*, Vol. i., No. 4, p. 174). The writer has not yet seen this communication. On March 10th, Mr. C. E. Davis, the City Architect, made a verbal communication to the Members of *The Bath Natural History and Antiquarian Field Club* on the "Excavation at the Baths," which was reported in the "Bath Herald" newspaper of March the 13th. As, however, a full and illustrated account of this excavation is promised to be published by Mr. C. E. Davis, it is desirable to wait for its appearance rather than by an imperfect statement give an erroneous account of the discoveries which have been made. It may, however, be mentioned that the octagonal bath was lined with lead; a reservoir, similarly lined, was discovered among the ruins of the Roman Baths found under the Abbey House, in 1755; and several Roman coins and other vestiges of Roman occupation.

Reference has already been made to the altars bearing the inscription, *Sul Minerva*; it is not improbable that she was replaced in the affections of the pious of the middle ages by St. Catherine, to keep whose day holy, and "maintain and sustain St. Catharine's Chapel and the bridge" to the best of his power each freeman was bound by oath.* As Minerva was the Pagan deity presiding over art, science, and education, so St. Catherine was the Christian Minerva.

It may here be mentioned that the municipal seal of Bath represents a bath enclosed by an embattled wall, with a small building in the centre, having three niches, or alcoves; the whole encircled by the legend, "*Sigillum Civium, Urbis Bathoniæ.*" The date of this seal is undetermined, but an impression of it was found by the late Mr. Doubleday, of the British Museum, attached to a deed of the time of Edward the Third (1327-1377), in the Tower of London.

The arms of Bath, if we may judge from an inspection of them as formerly represented on the roof of the nave of the Abbey, represent a wall with openings at the lower part, through which the water flows into a bath. Upon this is placed the sword with the key.

From about 1668 to the present time, the history of the waters, and their beneficial effects, will best be traced in the numerous works which have been written upon them.

* Earle's Bath, p. 88.

THE BATHS, ETC.



CHAPTER I.

THE BATHS AND PUMP ROOMS.

THE Mineral Springs, Pump Rooms, and Baths of Bath, are situated in the southern part of the town, in the vicinity of the Abbey Church, not far distant from each other, and easily accessible from all parts of the city.

There are four Springs, two Pump Rooms, and five Establishments for Public and Private Bathing, including Douche Baths. All of these are the property of the Corporation, with the exception of the Kingston Spring and Baths, which are the property of Lord Manvers. One spring supplies the Fountain in the Grand Pump Room, the King's and Queen's Public and Private Baths, the large Tepid Swimming Bath for men, the New Royal Private Baths, and Swimming Bath for women, adjoining the Pump Room Hotel, and the Baths in the General or Mineral Water Hospital. A second supplies the Cross Bath; and the third, the Hetling Pump Room, the Royal Private Baths, the Hot

Public Bath, and a bath in the Royal United Hospital. In former days, the last mentioned spring, also supplied the Leper's Bath, which was falling into disuse in 1773, and together with the Leper's Hospital attached to it was probably removed in 1777, when the present Hot Bath and Royal Private Baths were built. If an additional supply of water be required at the Royal Private Baths, as is sometimes the case, it is obtained from the spring at the King's Bath. The spring at the Kingston Baths supplies those Baths.

THE GRAND PUMP ROOM.

(Plan I.)

This room, erected in 1796, under the direction of Mr. Baldwin, the City Architect, is situated in the Abbey Yard, adjoining the King's and Queen's Public and Private Baths. Its architecture is Corinthian; it is eighty-five feet in length, fifty-six in breadth, and thirty-four in height, affording ample space for promenading, to those who drink the waters. In the recess at its eastern end is a marble statue of Beau Nash, executed by Prince Hoare; the right hand of the figure rests upon a pedestal, on the face of which is delineated a plan of the Bath General or Mineral Water Hospital, towards the establishment of which national charity he greatly contributed, by his exertions, in obtaining donations of money, and of which he was one of the Treasurers from the time that it was opened for the reception of patients, in 1742, until his decease in 1761. At the western end is an

orchestra for the band, which attends there on stated days during the winter months of the year. There are three entrances on the northern side; opposite to the principal entrance, within an apse on the southern side, is a Fountain, which is supplied, direct from the Spring, with a continuous stream of mineral water, at a temperature of 114° F. The supply of water from the Spring to the Fountain, amounts to eight gallons and a half a minute. This room is opened on week days from 8 a.m. to 4 p.m. during the whole year: on Sundays from 8.30 a.m. to 9.30 a.m., and from 1 p.m. to 3 p.m. throughout the year. During the above hours an attendant is always present at the fountain, where every requisite arrangement is made for drinking the waters. At the south-western end of the Pump Room there is a convenient entrance to the King's and Queen's Baths.

THE KING'S AND QUEEN'S PUBLIC AND PRIVATE BATHS.
PRIVATE BATHS AND DOUCHES. (Plan I.)

The Private Baths occupy the upper story; the Public Baths are on the basement story; they were built according to the plans of Mr. Baldwin, the foundation stone having been laid May 10, 1788. On the upper story there are four baths, of which one is a Reclining Bath, lined with white porcelain tiles, fitted with taps, by means of which it is supplied with hot and cold mineral water; the other three are large baths similarly lined, each of which will hold 864 gallons of water, with a depth of four feet six inches. In each there is a

Douche for the local application of the water, if required, while the bather is in the bath. They are sufficiently large, to afford space, for the free movement of the bather, and occupy the greater portion of the Bath-rooms, which are twelve feet long, seven feet wide, and eleven feet high. Within a small semi-circular apse, is situated, the deeper portion of the bath, with which is connected a flight of steps, forming a part of it. The hot water is thrown up from the bottom of the bath, and the cold water is turned on from a tap above the steps, and, as it flows over them into the bath, mingles with the hot water. To all the baths convenient and comfortable dressing rooms and closets are attached, containing every requisite for the invalid. In addition to the baths, there are also two Douche Rooms, and a Room containing a Vapour and Shower Bath.

DOUCHE ROOMS.

(Plan I.)

These rooms are each connected with a dressing room, and are for the local application of the water, or "dry douching," so called, in contrast with the douche used in the bath. The distribution of the water may be regulated by the attachment of large, small, or perforated nozzles to the douche pipe, so that a larger or smaller stream may be made to descend on the part douched, or it may be more gently applied by means of the perforated or rose nozzle. Here also are provided tepid, and cold, as well as Hot Mineral Water douches.

SHOWER AND VAPOUR BATH.

(Plan I.)

There is a Shower and Vapour Bath in this establishment. In the former, the mineral waters are used; and it is so arranged that the height from which the water descends can be regulated as occasion may require. The vapour of the latter is not derived from the mineral waters but from the water in the boiler of the steam engine, which raises the mineral water from the springs to supply the Private Baths. It forms a useful adjunct to the Mineral Baths.

There is also a closet heated with hot air, from which warm towels, flannel, and linen, are supplied to the bathers. Other arrangements may be seen by referring to the plan of the building.

The water may here be obtained at any temperature up to 114° Fahr.

From March until September all the above-mentioned baths are open to the public from 6 a.m. to 10 p.m.; and from September to March, from 7 a.m. to 10 p.m. On Sundays, throughout the year, from 7 a.m. to 9.30 a.m.; and from 1 p.m. to 3 p.m.

PUBLIC BATHS.

(Plan II.)

These baths are reached by descending a spiral staircase from the vestibule of the Private Baths. The

KING'S BATH, which is open to the sky, is the larger of the two. It is somewhat more than fifty-nine feet in length, and nearly forty in breadth. When filled, it is computed to contain 56,332 gallons of water, with a depth of four feet and a half.

On the northern side of this bath is a corridor, out of which are entrances to dressing-rooms, which either communicate with the bath, or contain in them Reclining Baths. These rooms which communicate with the bath were formerly called "slips." At the eastern end of this corridor there is an inclined passage for wheel chairs, which is approached by an entrance in Abbey Place, communicating with the Abbey Yard. (A.A. Plan II.) On the northern side of the bath there are three large Reclining Baths, and three flights of steps leading from as many dressing rooms into the water. One of these flights of steps communicates directly with the bath, while the other two lead into large recesses having partly glazed doors, which may be closed so as to convert the recesses into distinct baths, or the bather may pass through them into the open bath. Thus an opportunity is afforded to the invalid, of enjoying either a private or an open bath, as taste may incline. On the same side, but within the boundary of the bath, are three recesses furnished with seats for the convenience of bathers.

On the eastern side, there were other recesses, which admitted of being partially closed in; the centre one contained a douche. The colonnade has recently been

removed, and the old recesses and seats, together with a flight of steps leading into the bath have been uncovered and restored. On the south side there is a stone chair and bench, the former bearing the following inscription, "ANASTASIA GREW GAVE THIS 1739." Above the stone chair is a mural tablet recording the gift of an ornamental balustrade for the bath, by Sir Francis Stonor, in 1697,* the ornamental portion of which between the balusters has been lately restored, and a balustrade of the same pattern placed on the eastern side of the bath. Not far distant from this tablet is a figure of Bladud in a sitting posture, and below it an inscription on copper, dated 1699, the perusal of which will suggest some amusing speculations to the bather. According to Stukeley this statue formerly occupied a niche in the North Gate above the arch, where, in 1363, it represented King Edward III. It was taken down from thence and somewhat altered, by a common mason, to represent King Bladud, and then transferred to the King's Bath. Many of the brazen rings, attached to the walls of the bath, commemorate the benefits received by the donors from the use of the waters; others were placed there for the benefit of bathers by the Corporation. According to Guidott, there were 208 rings in all the Baths, of which not twenty-nine remain at the

* Guidott gives the date 1624, which is also given by Dingley in his "History from Marble," vol. 1, p. 48. The date, 1697, is on the tablet and there are no indications visible of its having been altered. It has been suggested that "there were two persons of the name, who successively commemorated themselves at Bath."

present time. Some, it is said, were sold for old brass, one or two of which have been recently recovered.

On the western side are two flights of steps leading from dressing rooms: one near the Queen's Bath communicates with the open bath, and the other with a recess within a collonade, partially closed in, from which, however, the bather can enter the open bath. Near the collonade is a pump attached to the wall, by means of which, mineral water for drinking, may be obtained direct from the spring, by those who are bathing.

In the centre of this bath is a well, eight feet seven inches deep; from its bottom, the hot spring supplying the bath rises through a large perforated iron plate covering the well, and through smaller openings around it, and also in other parts of the pavement, so as to preserve as much as possible, an equable temperature throughout the whole extent of the bath. The space around the well is railed in; and here, where the water rises at times with considerable force, and discharges large volumes of gases, the bath is the hottest. (Plan II.) The whole body of water in the bath is continually undergoing a change as openings are provided, in the sides of the bath, at the water level, so as to convey away the superfluity. The quantity of water yielded by this spring, is estimated at two hogsheads and a half a minute. Its temperature at the bottom of the well is 117° F.; within the enclosed space, 116° F.; while in different parts of the bath, it ranges from the last mentioned degree, down to 100°, or 98° F., according to

the distance from the exit of the spring. The united contents of the King's and Queen's Baths amount to 75,751 gallons.

At the time when Anstey wrote his "New Bath Guide" this bath was frequented by ladies dressed in the extreme of fashion, and gentlemen in powdered hair and bag wigs sociably enjoyed the bath together.

Richard Pugh speaks more fully on this subject :—"Intrant hæc balnea viri subligaribus linteis umbilico tenus induti, pileolisque nocturnis ab aurâ defensi cætera nudi, nisi cui libuerit interulis ex simplici linteo et pro more loci vittatis reliquum corpus tegere; quod antehac perhibent non sine maculosæ aut illuvie scabræ cutis suspicione factum, eique vitandæ coactos tunc omnes nuda pectora scapulasque, ut plerisque jam est in usu, ab omni contagione integras ostentare. Fœminæ pariter ex simplici et necdum insolato linteo talaribus vestiuntur supparis, quibus pro cujusque gradu aut arbitrato plus minusve ab atris tæniis ornamenti additur; quemadmodum et capitum calanticas et cincinnorum redimicula, honestioribus quibusque versicoloribus vittis et lemniscatis segmentatisque laciniis concinnare modestè tamen, et veluti nocturno cultu, mos est. Quinetiam in *Crucis* balneo ipsi considentium fœminarum fornices elegantibus fasciis institisque aut reticulatis affectatæ verecundiæ velamentis obtenduntur." (*Bathoniensium et Aquisgranensium Thermarum Comparatio*, 1676, p. 59.)

Dingley gives a brief account of the costume of the bathers, and says, "The men entered (the bath) with waist-coats and drawers for the purpose (of bathing) and the women with yellow shifts set off with ribbons." *

* History from Marble, vol. i., p. 46, 1684.

THE QUEEN'S BATH.

(Plan II.)

The Queen's Bath, formerly known as the *New Bath*, constructed in 1597, at the cost of Mr. Bellot (the founder of Bellot's Hospital), received its present name on its being used by Anne of Denmark, Queen of James I. After this it was enlarged, and a cross erected in the centre, having on its summit a figure of the Crown of England, surmounting a globe on which was inscribed in letters of gold, "ANNÆ REGINÆ SACRUM."* The Queen forsook the King's Bath, in consequence, it is related, of a circle of light appearing on the surface of the water while she was bathing in it. This Queen first visited Bath in 1613, and it was on her second visit to this city, in 1615, she left the King's Bath, and the Cross above mentioned was afterwards erected, which appears to have been removed some time about 1732.

This is an open bath, and adjoins the King's Bath on its southern side, being separated from it by a movable wooden partition. It is supplied from the spring in the King's Bath, and is somewhat more than twenty-seven feet square. When filled, it is computed to contain 19,419 gallons of water, having a depth of four feet and a half, the same as the King's Bath. On the southern side there are two dressing rooms, with flights of steps from them communicating directly with the water, and adjoining one of them is a Reclining Bath. On the western side there are also three other dressing rooms

* Warner's History of Bath, page 32.

communicating in a similar manner with the water. On the northern and eastern sides are arched recesses, and stone benches within them, and several rings, bearing inscriptions, attached to the walls. The temperature of this bath is variable, but it may be estimated at from 100° F. to 102° .

Above, and on the eastern side of the Queen's Bath, is a large reservoir for cooling the hot mineral water (Plan II.), which was planned in 1829 and completed in 1833. It measures forty-five feet in length by twenty-five feet in breadth, and is four feet eight inches deep. It contains 32,000 gallons of water, which is used for regulating the temperature of all the private baths. The water is cooled by means of a jet, thrown up by the steam engine, in the centre of the reservoir, which receives it as it falls.

Near this reservoir is a small building containing the engine, which draws the water direct from the spring, and propels it into the King's and Queen's Private Baths, and supplies the douches, and also the Fountain in the Pump Room.

The chief entrance to the King's and Queen's Public and Private Baths faces Bath Street, at the end of which is the Cross Bath.

THE CROSS BATH.

(Plan III.)

This is a cheap public bath. It is of an irregular form: its greatest length is twenty-three feet, and greatest breadth nearly twenty-two feet, and is partly covered over. When filled, it is estimated to contain 11,350 gallons of water, with

The Baths of Bath.

a depth of four feet and a-half. The spring supplying it rises from a depth of fourteen feet below the flooring of the bath, and yields half a hogshead of water a minute. The temperature of the water at the depth above mentioned is 104° F.; that of the bath generally, 96° or 98° F.

The present edifice was erected from plans by Mr. Baldwin, the City Architect, and within it there was on the northern side a small pump room, subsequently removed, and the space used for reclining baths, which have been replaced by small private dressing rooms; and instead of two public dressing rooms originally adjoining the bath, there have been made twelve private dressing rooms, and one small public dressing room. On the southern side is a figure of Bladud in *alto relievo*. In the centre of the bath there formerly stood an elaborate structure surmounted by a cross, which was erected by John Drummond, Earl of Melfort, Secretary of State to James II., in commemoration of the Queen having used this bath, with happy results, in 1688. An engraving of the cross may be seen in Guidott's work, "*De Thermis Britannicis*," p. 208, and a full account of it in Wood's "*DESCRIPTION OF BATH*," vol. ii., p. 259 : 1765. It was removed in 1783, the action of the water having rendered its foundations insecure. It has been generally supposed that the bath derived its name from this cross, but it was so called in Leland's time. (*Vide Introd.*, p. xiii.) Around this bath are arranged thirteen convenient dressing rooms, and a small common one, with closets adjoining. Bathers bring towels with them, or they are supplied by the attendant, for which there is a small additional charge. This bath was in former

days much frequented by the gentry frequenting the place, and the following account gives a description of how they bathed in it:—"In the morning, the young lady is brought in a close chair, dressed in her bathing clothes, to the Cross Bath. There the music plays her into the bath, and the women who tend her present her with a little floating wooden dish, like a bason; into which the lady puts an handkerchief and a nosegay, and of late years the snuff-box and smelling bottle are added. She then traverses the bath, if a novice, with a guide; if otherwise, by herself; and having amused herself near an hour, calls for the chair, and returns to her lodgings." *

THE HETLING PUMP ROOM.

Near to the Cross Bath was the Hetling Pump Room, a small, neat, and convenient room, where the water was supplied to invalids by means of a pump, which draws it direct from the spring, which rose into a reservoir, under the adjoining street. The water was delivered from the pump at a temperature of 114° F. This Pump Room was unnecessarily closed in 1875.

THE ROYAL PRIVATE AND HOT BATHS.

(Plan IV.)

Immediately opposite to the Hetling Pump Room are the Royal Private Baths and the Hot Bath.

On the outside of the former and within a recess open to the street is a Pump, from which the hot mineral water is

* *A Tour through the whole Island of Great Britain*, 6th Edit., 1761.

gratuitously supplied to any person who may wish to drink or carry away small quantities of it to those who are invalided at home. *It is intended for the advantage of those only, who are unable to subscribe to the Pump Room.* There is an attendant at the pump from 7 a.m. until 4 p.m., or even to a later hour, occasionally, whose duty it is to supply the water to those who come for it.

HOT BATH.

(Plan IV.)

By referring to the plan it will be seen that the Hot Bath, which is an open bath, is situated in the centre of the Royal Private Baths. The entrance to it is at the southern end of Hot Bath Street. On the right of the entrance is a room containing a Reclining Bath; and adjoining it, a dressing room with a Douche, from which are steps leading down into the Hot Bath. On the left there is another dressing room, also communicating with the Hot Bath. This bath is of an octagonal form, and its architectural embellishments are well deserving of notice. A gentleman of great taste, the late C. Empson, Esq., has given the following description of this building, which was erected by John Wood, Jun., in 1777:—"The walls are grey, of uniform tint; bold mouldings and cornices support balustrades, separated by sunk panels, and supporting an entablature which demands especial attention. From each corner, supported by rings, through which the folds pass, are folds of drapery, bearing pendants of sculptured foliage, fruit, and flowers in the boldest relief, and chiselled from the solid stone. It is possible to name the fruit and flowers—melons, grapes, peaches,

pomegranates, roses, sun-flowers, lilics, acanthi, and other less familiar plants—not indeed botanically correct, but artistically treated—not conventionally, but grand in manner, and perfectly original in adaptation and arrangement.” (Plan V.) At the four corners of the bath there are small seats for the bathers, and there is also a Douche Pump on its northern side. The temperature of the spring, which rises seventeen feet below the pavement of the bath, is 120° F., while the temperature of the water varies in different parts from 105° F. to 102° F. The spring yields one hogshead and a-half of water a minute, and supplies the Royal Private Baths, as well as the Hot Bath, and also a bath in the Bath United Hospital, in its immediate vicinity. When full, the Hot Bath is computed to contain about 9,570 gallons of water, having a depth of four feet and a half. The out-patients of the United Hospital have free access to this bath by ticket; and the same privilege is extended to invalids, who are unable to defray the expense of a bath, provided they bring with them an order signed by the Mayor of Bath, or by any Magistrate who is a member of the Corporation, who will grant such order, on the presentation of a certificate from a resident medical practitioner, stating that the applicant’s case is a fit one for the use of the Waters. Printed forms of the certificate may be obtained on application to the Superintendent at the Royal Private Baths.

THE ROYAL PRIVATE BATHS AND DOUCHE.

(Plan IV.)

The chief approach to these baths is under a semicircular covered way, from an entrance at the northern end of Hot

Bath Street, opposite to the Hetling Pump Room. There are four principal Baths.

The first, the *BLADUD*, or *MARBLE BATH* (Plan IV. Figs. 1.1) is a small bath, somewhat approaching in form to a reclining bath, lined and paved with marble, the surrounding space being laid down with encaustic tiles, and the rest of the bath-room, decorated in keeping with its other arrangements. There is a dressing room adjoining it, with every requisite convenience. The door, which closes in the latter room, separates it and the bath room from the rest of the building.

The second, or *ALFRED'S BATH* (Plan IV., Figs. 2.2.), contains, when filled, 724 gallons of water, with a depth of four feet and a-half, and has a dressing room attached to it.

Adjoining this room is another dressing room communicating with a *DOUCHE ROOM* (Plan IV., Figs. 3.3), having all the necessary arrangements for the use of the Douche, the water from which is discharged by a pressure equal to six pounds on the square inch.

Beyond this is a dressing room, connected with the third or *CHAIR BATH* (Plan IV., Figs. 4.4), containing an arm chair, attached to a crane, by means of which a helpless invalid can safely be let down into, and raised up from, the bath. This bath, when filled, contains 702 gallons of water, with a depth of four feet and a-half.

Adjoining this bath is a dressing room, having in it a *SHOWER BATH* (Plan IV. X.), the cistern supplying which may be supplied with any quantity of water, from one to twenty-eight gallons.

This room is also connected with a small chamber, containing the Lavement apparatus and ascending douche.

THE ENEMA OR LAVEMENT APPARATUS, AND ASCENDING
DOUCHE.

(Plan IV., Figs., 5.5.)

The enema and ascending douche apparatus is supplied from a cistern, placed at some height from the floor, which will hold fourteen gallons of water, exerting a pressure of from two pounds three quarters to three pounds on the square inch, and discharges two quarts of water a minute. The temperature of the water may be estimated at 110° F.

THE PRIVATE BATHS.

Adjoining the last-mentioned room is the fourth, or EDWIN'S BATH (Plan IV., Figs. 6.6), which, when filled, contains 716 gallons of water, and has a depth of four feet and a half. Attached to it is a dressing room.

All the above-mentioned baths in this establishment have arrangements for the use of the douche in them.

Near this bath is a small lobby leading into a corridor, at the upper end of which is a room containing a large RECLINING BATH (Plan IV., Fig. 8). This room also serves as a dressing room to an adjoining bath, which holds, when filled, 600 gallons of water, with a depth of four feet and a half; next to this bath is a second of like capacity, also with a dressing room. At the opposite end of the passage is another dressing room and bath, the latter containing, when

filled, 631 gallons of water, and of the same depth as the two previously mentioned.

The four principal bath-rooms are of a T shape, and measure nearly twelve feet in length; the lesser width is ten feet, and the greater width twelve feet; and are nearly twelve feet in height. They are lined with white porcelain tiles, fitted with marble, and the flat surface around the bath is covered with slate, while the walls are lined to a certain height with porcelain tiles. Two taps are placed above the steps into each bath, by one of which hot water is admitted, by the other cold water, the two streams mixing as they flow down the steps into the bath. The corridor bath rooms contain smaller baths, but are of the same general form as the principal ones, and are lined with plain white porcelain tiles, the walls of the bath room being lined with tessellated tiles.

There is in this establishment also a hot closet, for the supply of warm linen and blankets for the bathers.

TEPID SWIMMING BATH.

(Plan IV.)

By turning to the right, after leaving the last-mentioned bath, a passage leads to the large Tepid Swimming Bath, which was built in 1829, after a design by Mr. Decimus Burton. Its form is an oval of sixty-two feet by twenty-three feet. On the eastern side are arranged six small dressing rooms, and one large common dressing room (g.h.k.) From each of these rooms a flight of steps leads into the bath, which contains about 37,225 gallons of water,

and is four and a-half feet deep. The water is supplied from the spring in the King's Bath, and from the cold water reservoir; its temperature is 88° Fahr. The bath is lighted during the day time by windows at the side, and from above, by three lantern domes, with openings to the external air: at night the dressing rooms and the bath are lighted by gas. There is a separate entrance to this bath through the Piazza in Bath Street, opposite St. Catherine's Hospital.

The dressing rooms contain toilet tables, looking-glasses, sofas (some of which are convertible into beds), and fire-places. They are also carpeted; and curtains are suspended within the doors, to exclude draughts from the bather while dressing; for whom every necessary arrangement is provided. By means of inclined planes adapted to the entrances, invalids may, if necessary, be wheeled in their chairs into the dressing rooms, and from thence into the bath rooms; and every endeavour has been made to facilitate the employment of the waters, whether as regards the arrangements which have been described, or the charges for their use.

It may be questioned whether there is any locality possessing a mineral spring which presents so many conveniences for its use as are to be found at the bathing establishments in Bath. It certainly does not appear, excepting perhaps in a few instances, that there are any baths in England, or on the Continent, where the bathers have such ample room for movement in the bath, or where so large a quantity of water is supplied to each bather,* or where the comfort of a dressing room distinct from the bath room is provided.

* From a pamphlet, treating of the Springs of Vichy, it appears that the quantity of mineral water, supplied for medicinal purposes,

THE NEW ROYAL PRIVATE BATHS.

(Plan V.)

The ground plan of these baths—which are attached to, and form part of, the Grand Pump Room Hotel—is a long parallelogram, divided in the centre by a corridor lighted at the top, with baths and dressing rooms arranged on either side.

There are six bath rooms, each fifteen feet long by eleven feet and a-half high. The baths—which in form resemble those of the King's and Queen's Baths—are of a T shape, and measure, in length, 7 ft. 2 in., and at the broadest part, 10 ft., and 4 ft. 8 in. deep. They are sunk beneath the level of the bath room, are entered by a flight of Sicilian marble steps. The baths are lined, and the floors laid, with buff-coloured glazed tiles.

To each bath room, a dressing room is attached, eight feet wide, eleven feet and a-half long, and twelve feet high, with a water closet adjoining.

There are three reclining baths. Each, when filled, contains 150 gallons of mineral water. Dressing rooms and water closets are attached to these baths.

There are two dry douche baths, with dressing rooms and water closets attached. There is, also, an enema apparatus, and a vapour bath.

amounts to 3,174 hhds. 38 gallons in a day; while the Bath Springs yield 7,200 hhds., or more than double that quantity, in the same space of time. In order therefore to meet the demand for water at the former place, it is necessary to store it up in hermetically sealed reservoirs.

The swimming bath is at the end of the corridor. It is fifty feet in length by twenty-seven in width, and twenty-four in height; and, when filled, contains about 36,000 gallons of mineral water. It is lighted from above by means of an open iron and glass roof. Attached to this bath are five dressing rooms, each eight feet square and nine feet high; and one large dressing room, sixteen feet in width and seventeen feet in length. This bath is reserved for the use of females.

In addition to the above accommodation are waiting rooms, attendants' rooms, and lobbies.

There is a communication on the basement with the King's and Queen's Private and Public Baths, by means of a tunnel running under the street, so that there is a ready access to these baths.

There is, also, a communication from the Pump Room Hotel, on the ground floor, with the entrance lobby of these suites of Baths, and a lift, by means of which infirm invalids can be brought down from the landings of the Hotel to a level with the corridor, through which, in a merlin chair, an invalid may be wheeled to the baths or douches. The whole of this establishment is heated, when necessary, by means of hot water pipes.

The arrangements here are extremely good, and, without undue partiality, may be said to equal, and, as far as regards the conveniences for bathing, exceed what is found at Continental Spas.

PORTABLE BATHS.

The Bath Waters admit of being carried to any part of the

town, in tubs made for the purpose, so that invalids who are unable to leave their homes, and are desirous of having a bath late in the evening, or indeed at any time during the day, may have the mineral water supplied at their own residences, at a temperature only a little below 102° Fahr.

It may also here be mentioned that the Bath Waters are bottled for transportation to distant places, and are, after a long trial in this form, found to be beneficial in those cases where the cold mineral water is preferable to the hot.*

The King's and Queen's Public Baths are open from March to September, from 6 a.m. to 9 p.m.; and from September to March, from 7 a.m. to 9 p.m.; and on Sundays, from 7 a.m. to 10 a.m. Each bath is open to male and female bathers on alternate days as follows:—*King's Bath*—Gentlemen—Mondays, Wednesdays, and Fridays; Ladies—Tuesdays, Thursdays, and Saturdays; *Queen's Bath*—Gentlemen—Tuesdays, Thursdays, and Saturdays; Ladies—Mondays, Wednesdays, and Fridays.

They are open from March to September, from 6 a.m. to 9 p.m.; and from September to March, from 7 a.m. to 4 p.m. Male bathers only are admitted.

Males are admitted on Tuesdays, Thursdays, and Saturdays, and also on Sundays; and Females on Mondays, Wednesdays, and Fridays. It is open from March to September, from 6 a.m. to 9 p.m., and from September to March from 7 a.m. to 9 p.m.; on Sundays from 7 a.m. to 9.30 a.m. The out-patients of the Bath United Hospital, and those having certificates, are admitted from 9 a.m. to 12. After which time the bath is emptied.

* The water in bottles may be obtained from the Superintendent of the Corporation Baths, at the Royal Private Baths, near Bath Street.

CHAPTER II.

THE KINGSTON BATHS.

(Plan VI.)

THESE Baths, which have been called, at different times, the Abbey, or Old Roman Baths, are situated on the southern side of the Abbey, in the rear of Kingston Buildings. The Baths formerly attached to the Abbey House were supplied with mineral water from the King's Bath Spring; but when that building was destroyed in 1755, and the Roman Baths discovered, the spring which supplied the latter was found at the same time, and now supplies the Kingston Baths. These baths (the first private baths established in the city) were erected by the Duke of Kingston; they were commenced in 1763 or 1764, and completed in 1766, and were the property of Earl Manvers. They underwent several alterations and improvements about 1810 or 1811, when rented by the late Dr. Wilkinson, who added apparatus for dry and wet pumping, and also a pump room, in Kingston House, with which there appears formerly to have been a communication with the Baths.

There are two entrances to these baths; one in Abbey Street, for wheel chairs; and another in York Street, through a comfortable and conveniently arranged PUMP ROOM, where the mineral water, drawn direct from the spring, may be obtained for drinking. From this room

there is a flight of steps leading down to an open area in front of the immediate entrance to the baths, on the left of which is the Attendant's Room. Just within the entrance to the baths, on the left, is a cistern, capable of containing sixty gallons of water, in which the mineral water is collected for supplying the SHOWER BATH.

The entrance passage leads into a vestibule lighted from above, having on the left a HOT CLOSET, in which the towels and linen for bathers are warmed. On the right is an Ante-room, through which access is gained to the apartments constituting the Turkish Bath.

From the vestibule there are entrances to three dressing rooms (Nos. 1, 2, 3), each of which communicates with a BATH ROOM, and one with a Hot Air Bath. The baths are lined with white porcelain tiles, and, when filled, contain between five and six hundred gallons of water, with a depth of four feet and a half, and one is provided with a douche to be used in the bath. Baths can be obtained at any temperature up to 108° F., the cooled mineral water being employed to produce the lower temperatures.

The whole establishment is kept warm by means of the hot mineral water which is made to flow in channels under the flooring of the building. The dressing rooms are furnished with toilet tables; and, as well as the baths, are well lighted at night with gas. The whole establishment has, within the last few years, undergone a thorough and complete repair, and is kept in a very neat and satisfactory state by the lessee.

The MINERAL SPRING which supplies these baths was examined in 1770, at the request of the Duke of Kingston,

by the late Dr. William Falconer,* and subsequently by the late Dr. Wilkinson, who, in 1811, published the result of his investigation.† No more recent analysis of the Spring has been made.

Both of the above-mentioned gentlemen agree generally as to the resemblance of the physical qualities of this Spring with those of the King's, Hot, and Cross Bath water; the former, however, observes that "in taste the water nearly resembles that of the King's Bath pump, except that it has not so much briskness, and the chalybeate taste is less perceptible." They also agree closely in their estimate of the quantity of solid contents of the water; the former stating it to be 10 grs., and the latter 9·97 grs., in each pint. In Dr. Falconer's MS., the several quantities of the different ingredients found in the water are not given; but Dr. Wilkinson states that in 400 grains of the gross residuum, there exists—

Sulphate of Lime	...	...	...	...	231
Muriate of Soda	...	...	...	...	84
Sulphate of Soda	...	...	...	...	45
Carbonate of Limo	...	...	...	...	22
Oxy-Carbonato of Iron	...	...	...	...	5·6
Silex	...	...	...	...	5
Variable quantity of Vegetable Extract					2·5
					<hr/> 395·1
			Loss		4·9
					<hr/> 400·0‡

* I am indebted to the courtesy of the late Earl Manvers for an opportunity of perusing the original document, which was drawn up for the private information of the Duke of Kingston.

† "Analytical Researches into the Properties of the Bath Waters, &c.," by Dr. Wilkinson. Bath, 1811.

‡ "Analytical Researches," &c., p. 55.

“The air evolved at the spring consists,” according to the same writer, “of 94 parts of nitrogen gas, 2 parts of oxygen, and 4 parts of carbonic acid.” *

The temperature of the water, at a recent trial, as it flowed into the bath, was 108° F.; by Dr. Wilkinson, it is stated to have been 114° F.; and by Dr. Falconer, 104° or 105° F.

Since the above was written, the Corporation of Bath has purchased the Spring which supplied these Baths, and has diverted it so as to increase the supply of their own Springs. The Baths themselves are now converted into Turkish Baths.

* Ibid. p. 3.

CHAPTER III.

THE HOT MINERAL SPRINGS.

THE four Springs which supply the Corporation Pump Rooms and Baths are situated in the lower part of the town; and probably derive their origin from one common source, the main stream from which does not seem to be far distant from the several points at which they appear above ground. The Spring, however, which supplied the Kingston Baths, flows in a distinct channel, inasmuch as it was unaffected by the accidental tapping, in 1836, of the common course of the water which flows into the Corporation Baths.

As the geological character of the locality where mineral springs are found is a subject of interest, it may be well to give a general sketch of the disposition of the strata found in Bath and its immediate neighbourhood. The limestone of which the town is built is obtained from the beds of Great Oolite, quarried on Claverton and Combe Downs. Beneath this stratum is Fuller's earth, which appears on the northern side of the city, and on it the houses of Mount Beacon and Richmond Hill are erected. Under this is the Inferior Oolite, upon which rest Lansdown Grove, Lansdown Crescent, and its two wings. Winifred House and Sion Place also rest upon it. The declivity in

front of Lansdown Crescent consists of Inferior Oolitic sand, upon the lower limit of which All Saints' Chapel is built. The continuation of this declivity, on which Park Street and Cavendish Place are erected, consists of Marlstone, which also forms the upper portion of the High Common and part of Sion Hill. The remaining part of Bath, on the right side of the river Avon, is built upon Lias. The larger portion of Bathwick, the Parades, Green Park Buildings, and Norfolk Crescent, are upon Alluvial soil. In ascending the high ground upon the eastern and southern parts of the town, the Lias and Inferior Oolite Sands are crossed, until we gain the highest point, when we reach the beds of Great Oolite on the Claverton Downs and behind Prior Park. Below the Lias are found the Upper Red Sandstones and Marls, and beneath these the Coal Measures.

It is not improbable that the Hot Springs find their way through fissures or dislocations in the latter, and the fact that particles of coal are found among the sand thrown up by them, tends to give support to this impression. They have also forced their way through the Upper Red Sandstones, Marls, and Lias. Hot Springs frequently occur near the line of junction of two geological formations, and those of Bath arise near the junction of the Lias with the Upper Oolite.*

The temperature of the water, of all the Springs, appears to have been constant, except on three occasions, which will be hereafter noticed. Compared with other Thermal Springs frequented for medicinal purposes they rank high,

* Vide Sir Chas. Lyell's Inaugural Address at the Meeting of the British Association held at Bath in 1864.

as the following list will shew :—

Borsetta, 171° F.

Wiesbaden, 158° F.

Baden Baden, 153° F.

Aix-la-Chapelle, 130° F.

Cauterets, 122° F.

Teplitz, 121° F.

Gastein, 120° F.

BATH, HOT BATH, 120° F.

BATH, KING'S BATH, 117° F.

Vichy, 109° F.

BATH, KINGSTON SPRING,
108° F.

BATH, CROSS BATH, 104° F.

Warmbrunn, 99° F.

Pfeffers, 99° F.

Wildbad, 98° F.

Schlangenbad, 88° F.

Aigues Chaudes, 55° F.

The temperature of the Springs has been represented as arising from the action of a volcano beneath the town: but, on the one hand, the presence of Thermal Waters is by no means always connected with volcanic agency; and on the other, the geological features of the district indicate a tranquil deposition of the materials constituting the several strata, while the separation between the upper stratum of the high land of the valley is more properly to be ascribed to denudation than the throes of a volcano, at a time probably when the valley formed part of an estuary, the waters of which debouched in the direction of Weston-super-Mare, over a tract of country now known as the Zoylands (i.e., sea-lands), while the fissures and dislocations of the lower strata, through which the mineral waters reach the surface, may be attributed to disturbing causes acting from a distance. It is more reasonable to attribute the heat of the Bath Waters to a cause, to which both thermal springs and volcanoes may be satisfactorily referred, namely, the central heat of the earth, than to any local subterranean volcanic fire.

The quantity of water supplied by the Springs appears to have been unaffected since they first became subjects of investigation, up to the present time, by any meteorological

logical change. They are, as an old writer has said, "Perennial springs, whose water is neither increased by the greatest glut of rain, nor lessened by the greatest drought." The constancy of their flow into the Baths has been thrice interrupted: once by the sinking of a shaft in search of coal, in the neighbourhood of Bath-easton, towards the east; again, in 1811, when an escape of water took place from the Springs, rendering it necessary to "puddle" the ground through which they rise; and more recently, in 1835, by the digging of a well 170 feet deep, at a distance, on the west, of 250 yards from the King's and Queen's Baths, and 200 yards from the Hot and Cross Baths. The stream of hot water burst into and overflowed the well, and the supply to all the Baths, except the Kingston Baths, was materially diminished, as also the temperature of the water; the latter circumstance may be accounted for by the water in the Baths cooling more rapidly when but slowly supplied to them. The stream, however, was with some difficulty restored to its natural channel, and the Baths now fill with the usual rapidity.

In small quantities, when recently drawn from the Spring, the water is clear, colourless, and sparkling; in large quantities, it presents a pale sea-green tint. It is free from any odour, and possesses a pungent, slightly saline, and somewhat chalybeate or inky taste, and though perhaps a little distasteful at first, the invalid with whom it agrees, in a short time, comes to relish and even desire it.

Several analyses of the Bath Waters have been made; those most deserving of attention are given in the following

table. The water examined was in each instance drawn from the King's Bath Spring; the specific gravity being 1.002.

In an Imperial Gallon. 70,000 grs.	Phillips. 1806.	Scudamore. 1820.	Walker. 1829.	Noad. 1844.	Merck and Galloway. 1848.
Carbonate of Lime -	7.680	5.280	10.667	.....	8.820
Carbonate of Magnesia -	.....	.....	.....	.....	0.329
Carbonate of Oxide of Iron	0.274	0.200	0.243	0.521	1.071
Carbonate of Soda -	.....	.....	.....	5.760	.....
Sulphate of Lime -	86.400	98.320	81.624	96.240	80.052
Sulphate of Potassa -	.....	.....	2.927	.....	4.641
Sulphate of Soda -	14.400	1.520	19.371	.....	19.229
Chloride of Sodium -	31.680	12.240	15.122	27.456	12.642
Chloride of Magnesium -	.....	15.360	13.339	7.142	14.581
Alumina -	.....	.....	0.150	.....	.....
Silicic Acid -	1.960	1.920	3.233	3.360	2.982
	142.394	134.840	146.676	140.479	144.018
Quantity directly observed	144.125	.....	147.622	149.072	.....
Carbonic Acid -	11.25c.i.	.....	7.60c.i.	.....	26.45c.i. at 115°F.

Cuff is said to have detected Iodine in the waters; *Noad* remarks in reference to this substance, that "according to Stromeier starch will detect free Iodine in a liquid containing $\frac{1}{450000}$ th of its weight of that principle; if, therefore, any Iodine does exist in the Bath Waters, it must be in a proportion less than the above, and probably beyond the reach of chemical detection." Merck and

Galloway found traces of both Iodine and Manganese.* Gibbs first detected Silex, and Scudamore Magnesia. Recently, however, Roscoe of Manchester has discovered Lithium and Strontium, the metallic bases of the Alkalies Strontia and Lithia;† the latter of which has recently been brought into notice as a remedy specially beneficial in Gout.

ANALYSES OF THE THERMAL WATERS OF BATH.

MEAN SPECIFIC GRAVITY, 1.0031742.

In an Imperial Gallon, or 70,000 Grains.	King's Bath. Grains.	Hot Bath. Grains.	Cross Bath. Grains.
Carbonate of Lime - -	8.82	8.903	9.001
Carbonate of Magnesia - -	0.325	0.378	0.398
Carbonate of Iron - -	0.643	0.579	0.599
Carbonate of Manganese - -	Trace	Trace	Trace
Carbonate of Soda - -	14.817	14.391	15.017
Sulphate of Lime - -	71.068	70.802	69.994
Sulphate of Magnesia - -	25.614	35.058	35.044
Chloride of Sodium - -	18.022	17.864	17.886
Chloride of Potassium - -	1.734	1.887	1.812
Chloride of Lithium - -	Mere Trace	Mere Trace	Mere Trace
Chloride of Strontium - -	Trace	Trace	Trace
Silicate of Soda - -	0.411	0.404	0.399
Ammonia, Alumina - -	Traces	Traces	Traces
Arsenic, Copper, etc. - -	Mere Trace	Mere Trace	Mere Trace
Total Ingredients - -	151.486	150.266	150.150
Directly estimated by evapo- ration desiccated at 240° Fah. - - - - -	153.001	151.998	152.134
	Cub. Inch.	Cub. Inch.	Cub. Inch.
Carbonic Acid - -	25.55504	24.8969	24.7427
Nitrogen - - - -	1.709060	.....	.....
Carbide of Hydrogen (light) - -	Trace	Trace	Trace

* The latter had been previously detected by Mr. R. Biggs.

† Vide Proceedings of Brit. Asso., p. 76., Bath, 1864.

The preceding analyses were made by Dr. Sheridan Muspratt for the writer, and in his report which accompanied them, he observes that “the proximity in the results of the three Waters proves their *identity*. In former analyses, as well as those I have just completed, a portion of the *lime* is tabulated as *carbonate*, but I have my doubts as to its existing as such in solution, owing to the *length of time* I had to boil the samples before any precipitation occurred. Is not the Carbonate of Lime, appearing so tardily on ebullition, the consequence of decomposition? The molecular appearance of the deposit, when viewed under the microscope, favors my hypothesis.”

The small amount of mineral ingredients contained in these Waters has not unfrequently been referred to as a valid reason against their efficacy. It is, however, worthy of notice that many of the well-known Continental springs, which have for a long time, and still continue to enjoy, a deserved reputation in promoting recovery from the diseases in which they have been found to be efficacious, contain a considerably smaller proportion of ingredients than the Bath Waters, as the following list will shew:—

In sixteen ounces of water.

Teplitz, Bohemia	...	...	4·854 grains.
Warmbrunn, Silesia	...	...	4·07 ,,
Wildbad, Würtemberg	...	...	3·58 ,,
Plombieres, France	...	...	2·0069 ,,
Pfeffers, Switzerland	...	...	2·61 ,,
Römerbad, Styria	...	...	2·239 ,,
Gastein, Tyrol	...	...	2·68 ,,
BATH, England	...	...	17·96 ,,

The waters of Gastein are almost chemically pure, and yet their beneficial effects are attested by many trustworthy authorities.

The most abundant ingredients of the Bath Waters, taking the above analyses as a whole, are—1. Sulphate of Lime; 2. Chloride of Sodium; 3. Chloride of Magnesium; and 4. Sulphate of Soda. The proportion of Iron which has been detected is comparatively small, still its taste is quite perceptible in the water, and its effects on the system are more decided than could have been expected from the small portion which has hitherto been revealed by analysis. It appears somewhat remarkable that a larger quantity has not been discovered, since it is found plentifully, in combination with Lime and some Magnesia, deposited in the channels through which the water is conveyed, to the Private Baths, and also on the pavements of the Public Baths.

The gases evolved from the Waters are Carbonic Acid, Nitrogen, and Oxygen. The result of Professor Daubeney's investigations, as stated by him in a paper read at the meeting of the British Association held in Bath, in 1864, is as follows:—"The spring that supplies the King's and Queen's Baths, the most of any, discharges 281 gallons of water, or in round numbers (reckoning 277 cubic inches to the gallon) 34,900 cubic inches per minute. Of this water 100 cubic inches were found by me to disengage, after long continued boiling, $3\frac{1}{2}$ cubic inches of air, consisting of 2.9 c.i. of Carbonic Acid, 0.4 of Nitrogen, and 0.2 of Oxygen, so that there will be present in 34,900 c.i. of Carbonic Acid, 1.012; Nitrogen, 140; Oxygen, 70; which

quantity added to that of the free gas disengaged per minute from the spring, would make up the following amount—viz., Carbonic Acid present in the water, 1.012, disengaged, or free, 12, total, 1.024; Nitrogen present in the water, 140, free, 245, total, 385; Oxygen, present, 70, free ditto, 10—80: total, 1489 cubic inches.”*

As regards the Carbonic Acid found in these springs, the analysis by Merck and Galloway gives somewhat more than three cubic inches of this gas to each pint of water; while the earlier analysis by Phillips gives somewhat more, and that by Walcker somewhat less, than one cubic inch to the same quantity of fluid.

It is to the presence of Carbonic Acid Gas that the sparkling appearance of the water is due, when drawn fresh from the spring. It is a powerful stimulant of the nervous system, and its effects in contributing to restore pliability to stiffened limbs, and especially when applied in a gaseous form to the surface of the body, in alleviating paralysis, is well known.

The quantity of Nitrogen contained in the Bath Waters, amounting to 97 per cent. of the gaseous matter yielded by them, is deserving of notice. Dr. Lyon Playfair, writing on the gaseous contents of the Buxton Water, observes that “the gases are nearly of the same composition as those of the thermal spring at Bath, and there is no reason to doubt that dissolved Carbonic Acid and Nitrogen may exert important physiological effects.” It is difficult to explain precisely the manner in which

* Reports of Proceedings of British Association, Bath, p. 42, 1864. Taylor.

Nitrogen, from such sources, produces a beneficial effect on the system; but that it holds important relations with the animal economy is evident from the large proportion found in the blood, and in the organs of the animal system; and we know that articles of diet must possess a due proportion of Nitrogenous matter, in order that the body may be properly nourished. But while it is not easy to point out how this gas beneficially affects the system, yet if we find a spring yielding a large proportion of Nitrogen, and containing no larger amount of solid ingredients than is yielded by spring water or ingredients, whatever may be their quantity, to which the entire good effects of the spring cannot be satisfactorily attributed, they must, it would appear, of necessity be partly referred to its gaseous contents. Dr. Sutro on this point observes, that "if we see the use of a mineral water causing distinct retrogression of anti-vital phenomena; if we perceive gouty concretions to proceed towards absorption; if we observe contracted limbs gradually to relax again, and to try feeble efforts of long-forgotten exercise; if we find cutaneous harshness and rigidity to diminish, and to give way to a former softness; if we behold a resuscitated desire for muscular exertion and for mental work in a prostrate individual, and we know the spa, the originator of these changes, to possess a great quantity of Nitrogen, is it not legitimate to attribute to this gas part of the efficacy?" (*German Mineral Waters*, p. 69, 1851.)

The much frequented German spring of Wildbad having a temperature of 98° F., to which invalids resort for the cure of ailments, the greater proportion of which are

of the same nature as those which are recovered or relieved by the Bath waters, evolves about ninety-one per cent. of Nitrogen, or six per cent. less than is yielded by the latter springs. One noticeable effect of the Wildbad waters is the restoration of flexibility to limbs stiffened by Rheumatic Paralysis, and the number of such cases which have thus been relieved by the Bath waters is very large.

In 1866, Professor Williamson was kind enough to favor me with the following communication on the gaseous contents of the King's Bath Spring:—"The mean of two analyses of one specimen in which all the constituents were determined, gave Nitrogen 96.222, Carbonic Acid 3.002, Oxygen .578, Marsh Gas .198. With respect to the quantity of gas evolved from the King's Bath Spring (the only one examined), the mean of six measurements give 2297 cubic centimeters per minute. It seems unquestionable that atmospheric air is acted upon by Carbonaceous deposits which are evolving Marsh Gas by their decomposition, and that Carbonic Acid is formed at the expence of the greater part of the Oxygen of the air. Most of the Carbonic Acid, no doubt, remains dissolved in the water. The discovery of Marsh Gas proves the presence of decomposing Carbonaceous matter in contact with the water of the spring, and may, I think, be considered as proving the correctness of the above explanation."

It is not however to the presence of one or more particular mineral ingredients of a spring, except where they are found in large proportions, that its efficacy is to be attributed, or on which its selection as a medicinal agent will depend. It is to the union of the several substances

contained in the water, the quantity of fluid with which they are combined, and still more to the recorded experience and concurrent testimony of credible witnesses, that we must chiefly refer for instruction and guidance in the choice and employment of a mineral spring.

It may here be mentioned that vegetable matter is found at certain seasons of the year, floating on the surface of the mineral water, adhering to small masses of its deposit, and sometimes adhering to the walls of the open Baths, which consists of the *Oscillatoria* or *Conferva tenuissima*, first found in the Bath waters, and described by the late Dr. John Ford Davies.

“Its singular appearance,” observes Sir J. E. Smith, “arises from the filaments being collected together into little ascending tufts, apparently rooted in the muddy deposit of the water. Each tuft proves on examination to consist of simple reniform, even filaments, crowded together and quite pellucid, and equally destitute of joints, and branches; their diameter is not more than the 8·1000th or 10,000th part of an inch.”

Among the deposit of the Waters, small fossilized fruits have been found, and also specimens of the *Spirifer oolitica*, which was discovered by Charles Moore, F.G.S., in the inferior oolite of Dundry. (Vide *Somerset. Arch. and Nat. History Soc. Proceedings* for 1854.)

CHAPTER IV.

THE MEDICINAL USES AND EFFECTS OF THE HOT
SPRINGS.

UNDER this head, it is not intended to enter into a detailed account of the medicinal employment and effects of the Bath Waters; but merely to make such general statements as may be useful to those who are unacquainted with them.

The several points deserving of attention admit of arrangement under the following divisions:—

DRINKING, BATHING, DOUCHING, ETC.

When the Waters are DRANK fresh from the Spring, they raise and accelerate the pulse, increase the temperature of the body, and excite the secretions; and these effects, which are generally manifested soon after drinking them, are more permanent than might at first be anticipated. They have a tendency to produce constipation when taken in small quantities: but the older writers mention their purgative effects; the dose, however, they administered amounted to one, two, or three quarts daily, which produced two or three copious evacuations. The ordinary quantity—namely, four, six, or eight ounces—taken daily tends to produce a regular action of the bowels, while the largest quantity will sometimes cause purging.

The effects of the Waters which indicate that they will

prove beneficial by drinking of them, are, a glow of warmth in the stomach, an increased appetite, an improvement of the spirits, an augmented secretion of the saliva, and an excitement of the urinary discharge; the latter constituting one of the best indications of their being likely to produce a good effect; next to which may be placed the rapidity with which they quench thirst. If, however, they produce headache, thirst, a dry tongue, a sense of weight in the stomach, diminish rather than improve the appetite, induce nausea and sickness, and fail in promoting the flow of urine, they will be of no advantage unless their tendency to cause these effects can be obviated. This may in many instances be brought about by diminishing the dose, by altering the period of the day at which they are taken, by allowing the water to cool before drinking it, and especially by relinquishing their use before breakfast. The employment for a short time of some diuretic remedy, conjointly with the water, will aid in deciding its effect so as to augment the flow of urine. But if these changes are unattended by any corresponding result, no benefit can be expected from persisting in their use.

The quantity of water to be drank during the day should, under ordinary circumstances, be divided into two portions, one of which may be taken before breakfast, and the other in the afternoon. The usual amount taken at one time varies from four ounces to half-a-pint. It may, however, be increased to double that quantity, if the smaller doses do not disagree, and the case requires it. If the quantity to be drank be large, the morning and afternoon portions should be divided, ten minutes or a quarter-of-an-hour being allowed to intervene between the divided dose, which time will be

usefully occupied in gentle exercise. The water should be drank leisurely, for nothing is more likely to cause discomfort than rapidly tossing off the quantity directed to be taken. There is no objection to drinking the Waters on the same day that the Bath is used.

When the Waters are used as a BATH, a slight shock, accompanied with chilliness, is often experienced, on first entering the Water, which soon passes away, and is succeeded by a grateful sensation of warmth. The frequency of the pulse and the temperature of the body is increased, and subsequently the amount of the urinary discharge augmented. After the use of the Bath, there is a consciousness of elasticity and vigor of the frame, and the appetite is improved. The exhausting perspiration and fainting which often follow the use of warm baths of ordinary water, rarely, if ever, occur after the employment of the Mineral Water, neither is its use productive, under ordinary circumstances, of the copious perspiration consequent on common hot baths. In cases where the limbs are stiffened, or contracted by Rheumatism, the power of moving them is gradually restored; in many cases it returns with remarkable quickness, by means of bathing. The same result also takes place, though more slowly, in certain cases of Palsy, in which the employment of the Bath is allowable. Pain also is relieved during the use of the Bath as in Sciatica, and though it and the stiffness of the limbs often return, at first, soon after leaving the Bath, it will be observed, that the interval between employing the Bath and the recurrence of pain or stiffness, increases, until they are entirely removed. In some cases, where Bathing does not disagree, and yet

does not produce any very appreciable effect at the time, it is advisable, after a proper trial, to cease from using the Bath, for oftentimes relief or recovery follows after their employment has been discontinued, or after an interval their use may be resumed with manifest advantage.

When the use of the Bath is attended with marked redness of the skin, flushing of the face, and giddiness, the temperature of the water should be lowered, and the period for employing it diminished, until both are adapted to the requirements of the case; but if after taking these precautions, similar effects be still produced, it will be evident that the use of the Water, in this mode, must be relinquished.

The temperature of the Bath, under ordinary circumstances, should not exceed 95° or 97° F. A higher degree of heat ought never to be resorted to except by special direction. The proper time for remaining in the Bath should not exceed ten minutes, or a quarter of an hour, when used for the first time: sometimes five minutes may be sufficient at first; and it is from inattention to this point that many persons have relinquished the use of the Waters, after a single trial, alarm having been created by the giddiness and flushing of the face, from incautiously remaining too long a time in the water. Provided no discomfort is experienced, the period may be extended to twenty minutes or half-an-hour, according to the effect produced. Before entering the Bath Room, it is advisable that the vapour, which has collected during the preparation of the Bath, be allowed to escape. The bather should descend gradually into the Bath, and on leaving it be

enveloped in a warm sheet, covered with a warm blanket. The sheet, aided by gentle friction, absorbs the moisture from the body, and when this has been done, it should be allowed to slip down, and the warm blanket wrapped round the person; the bather may then return to the dressing room, and after being well rubbed with warm towels, proceed to dress. Where it is considered necessary to promote perspiration, the bather should immediately, on being enveloped in the sheet and blanket, proceed to the dressing room, lie down on the bed or sofa, and being wrapped in one or two warm blankets, remain there for about a quarter of an hour, then to be rubbed, and dress. The same rules should be observed on leaving the open Baths. If the weather permit, it is well to walk for a short time after bathing, or else to return home in a covered vehicle.

The best time for taking a Bath is early in the morning, during the warm months of the year, though it is usual to select an hour between two and five o'clock in the spring and autumn, and an earlier hour during the winter. But it may be employed generally at any period of the day, provided it be not soon after, or only a short time before a meal. It may ordinarily be taken three times in the week; in some cases as often as four or five times within that period.

The above remarks are applicable only as general rules, and to be observed in employing the Waters either for bathing or for drinking; but the particular circumstances of every individual case will decide to what extent a deviation from them is allowable. It is well known that some persons can use the Waters without experiencing any

injurious effects, but it is equally well known that many persons suffer from their injudicious employment.

Douching, &c.—Dry pumping—as the use of the Douche alone, without a Bath, is termed, in contradistinction to the Wet Douche—or the employment of the Douche when in the Bath, may be used at any period of the day; the forenoon, however, is the most desirable time. The use of the *Dry Douche* is regulated by the time during which it is applied. The *Wet Douche* is used after the bather has been for awhile in the Bath, the duration of its employment being regulated in the same manner as the Dry Douche. The bather should not remain in the Bath after the Douching has been completed. The *Douche Ascendante* may be used at whatever period of the day may be most convenient. In cases of Leucorrhœa, Interrupted and Painful Menstruation, it constitutes a valuable auxiliary in restoring a healthy action. The *Lavement* is used with the most marked advantage before breakfast, and may be also beneficially used an hour or two after that meal. It is especially serviceable in cases of habitual constipation, and in cases where the regular action of the bowels has been interfered with by the injudicious and indiscriminate use of purgatives. The time, however, at which the Douche of both kinds and the Lavement should be used, will depend on the circumstances of each individual case.

DISEASES IN WHICH THE WATERS ARE FOUND TO BE
BENEFICIAL.

Disorders of the Digestive Organs.—Among the disorders which derive benefit from the use of the Bath Waters, those

of the digestive organs may first be noticed. Invalids who suffer from these affections do not generally have recourse to mineral waters until their complaints have assumed a chronic form, manifested in a pale yellow, or what is called a bilious complexion, a furred and dirty tongue; foul taste in the mouth; a diminished or almost entire loss of appetite accompanied by weight and oppression, referred to the stomach, constipation or diarrhœa, with cold hands and feet, depressed spirits, and an indisposition for occupation of any kind. In such cases the Bath waters produce very beneficial effects, and where constipation is present, the occasional use of the *Lavement* contributes to their realization. An eminent writer on these Waters has observed, that “every medical practitioner at this place has seen instances of people labouring under want of appetite, pain and spasm of stomach and bowels, together with all the other symptoms of depraved digestion, and want of power in the proper organs to perform their functions, joined to a very great degree of weakness, both of the body and of the spirits, relieved by the use of the Bath Waters. The recovery, in such cases, is particularly remarkable, for its taking place so quickly after the commencement of the trial of the remedy. A few days will frequently work such a change in the situation of the patient as would be scarcely credible, were it of less common occurrence. The appetite is often restored altogether, the wandering spasms and pain cease, the natural rest returns, and the spirits are raised to their proper pitch. The strength likewise improves daily, and the natural secretions and regularity of the body, in point of evacuations, are restored.” The late Dr. Brinton, in laying down the treatment of Dyspepsia, says, “Mineral

waters as therapeutical agents can hardly be valued too highly. It is certain that many of them are sustained without inconvenience, by stomachs far too irritable to support the artificial mixtures prepared by the druggist in accordance with our prescription; and equally certain that they introduce into the system considerable quantities of the very remedies (chalybeates, salines, and aperients) which we are compelled to resort to as remedies in many varieties of Dyspepsia." (*Diseases of the Stomach.* p. 399. Lond., 1859.)

Interrupted Menstruation.—Among the diseases of the abdominal viscera, are certain affections of the uterine organs, namely, *Interrupted Menstruation*, characterised by a cadaverous complexion, depravation of appetite and digestion, languid circulation, swelling of the lower extremities, and languor of the powers both of mind and body. In such cases the Waters have been found by long experience to be a most effectual remedy; the Bath is generally the best form in which to use them, and the employment of the *Lavement* or *Douche Ascendante* will materially contribute to promote beneficial results. In *Painful Menstruation*, also, the employment of the warm bath, with or without the *Lavement* or *Wet Douche*, has been repeatedly observed to produce good effects.

In *Leucorrhœa*, also, they are useful when employed as above. In *Sterility*, when not dependent on malformation, their use was highly esteemed by many of the early writers on the Waters, even as early as the time of Guidott, and they were much frequented on this account. The Bath was recommended, nor was the local application of the Waters omitted, which appears to have been lost sight of until its revival, in the form of the *Douche Ascendante*.

In *Anæmia*, or “poverty of blood,” arising from causes which induce a diminution of its colouring matter, the power of the Waters in restoring it to a healthy condition is very manifest. The effect of iron in this disease is well known; and the form in which it is found in the Waters is most favorable, and the development of its assimilation beneficial to its effects.

Gout.—In this affection the Waters have long been celebrated for the relief which they afford. In cases where anomalous affections of the head, stomach, and bowels, are attributable to latent gout, the use of the warm bath will bring on a “fit of gout,” by which they are generally removed. It, however, often happens that by the repetition of acute attacks, the disturbance of the digestive organs does not subside, but harasses the sufferer, in the intervals between the paroxysms. In alleviating and removing this condition, the Waters taken internally are peculiarly beneficial. They act as a cordial, without producing any heating effects; and their influence is soon shown in an improved appetite, a more regular action of the bowels, and in the altered character of the urine. They are also useful in cases where deposits are commencing in the joints of the hands and feet, by diminishing the tendency of the disease to form these deposits, which, when once formed, neither these nor any other mineral waters are able to remove.

Dr. Garrod observes that “the Waters which possess but little solid matter, and which have acquired a reputation in gouty cases, are those of *Wildbad*, *Teplitz*, *Gastein*, *Buxton*, and BATH. They are all of somewhat elevated temperature, and are chiefly used in the forms of the bath, and appear to

be peculiarly adapted for the treatment of the disease in the old and infirm. According to numerous observers, great benefit has been often experienced from their employment."—("Gout," *Reynold's System of Medicine*, Vol. I., pp. 871-72. Lond., 1866.)

In *Atonic Gout*, a judicious employment of the Waters often protects the patient for lengthened periods from a recurrence of an attack. There are, however, circumstances which forbid the use of the Waters in this disease, and render it necessary that they should never be employed for it, but with the sanction of the medical attendant.

Gouty Dyspepsia.—The symptoms of Gouty Dyspepsia, when well marked, "are, in part, referred to an abnormal state of the gastric juice; it is preternaturally acid, and is the cause of heartburn so often complained of. Acid eructations are also present, 'sourness at the stomach;' there is pain at the scrobiculus cordis, the tongue is often furred, and the pulse is irritable. The hepatic secretion is often disordered, and sallowness of the countenance, with irregular action of the bowels, and very dark or clay-coloured motions, are induced; the urine, also, is high coloured, and there is abundant deposit of lithates. The urine, however, more frequently presents a large quantity of uric acid deposit, red dust, or gravel, as it is sometimes called, and under the microscope the crystalline character of the deposit is well shewn—rhomboidal crystals, or clusters of acicular ones."—("Habershon, *Dis. of the Stomach*," p. 163. Lond., 1869.)

Dr. Habershon, in his work previously quoted from, remarks, that in this affection "the saline Waters of Karlsbad, Vichy, BATH, Cheltenham, etc., are often very serviceable" (p. 166).

Rheumatism.—In this disease the greatest benefit is derived from the use of the Waters. In *Acute Rheumatism*, after the subsidence of feverish symptoms, the employment of the tepid bath is extremely grateful, and accelerates the cure, and prevents this form of Rheumatism from becoming Chronic. It has been generally thought, that where the heart has been injured by an attack of Acute Rheumatism, the use of the Waters should be interdicted; but such is not the case. When the injury done to this organ is extensive, they are not to be employed; but where the injury is not great, the Waters may be used with great advantage, and the mode of their employment will be regulated by the sagacity of the medical attendant. In *Subacute Rheumatism*, also, their use is followed by beneficial results. In *Chronic Rheumatism*, after many remedies have failed—as numerous cases admitted into the Mineral Water Hospital prove—the Waters, when used internally and externally, seldom fail to give relief, and very frequently effect a good recovery. In *Sciatica*, and other forms of *Neuralgic Rheumatism*, the Waters in the form of a douche, or bath, are extremely serviceable. In that form of Rheumatism, commonly known as *Rheumatic Gout*, where the joints of the extremities are swollen, stiff, or contracted, the use of the Baths, commencing with the temperature generally used, and rapidly increased, if the patient can bear it, together with employment of the Douche, soon produces relief. Drinking the Waters, at the same time, also conduces to accelerate recovery. The amount, however, of benefit afforded by the Waters will depend on the length of the time during which the patient has suffered from disease,

as well as on the period for which the Waters are used. In *Rheumatic Palsy*, also, the usefulness of the Waters is well marked.

In *Lumbago*, by the use of the Dry Douche three or four times a-week, the sufferer will, in most cases, be relieved in a short time. In obstinate cases, the employment of the Wet in preference to the Dry Douche is ordinarily effectual in removing the affection.

Palsies.—In *Palsy*, preceded by an apoplectic fit, the use of the Waters cannot, on the whole, be said to promise relief. Instances, however, are adduced where the contrary result appears to have taken place. Certainly, the use of the Waters ought not to be permitted for some time after the seizure, and not even then, except after a very careful examination of the condition of the invalid. In *Palsy* arising from *Cold*; from the introduction of mineral substances into the system, such as *Lead*, *Arsenic*, *Mercury*, and *Copper*, the use of the Waters has been attended with the best results, and particularly in that form of palsy which affects the wrists of painters, gilders, and compositors, known as “dropped hands.” In such cases, the Bath Waters have been esteemed for many years, and still continue to prove a valuable remedy.

In *Ischias*, or *Hip disease*, the Waters have afforded great benefit, but it is only at its early stage that advantage can be fairly looked for from their employment. Old *Ischiatic disease* is often accompanied by severe Rheumatic pains, which are much relieved by douching. In *Chorea*, or *St. Vitus’ Dance*, bathing and douching down the whole back, several times in the week, is productive of good results, especially in young females.

In cases of *Syphilitic*, *Gonorrhæal*, or what is termed *Urethral Rheumatism* and *Cutaneous Eruptions*, attributable to a Syphilitic origin, and especially if it has happened that the patient has been previously placed under the influence of mercury, the use of the Waters, both by drinking and bathing, is followed by beneficial effects.

Lepra, *Psoriasis*, *Eczema*, and other cutaneous diseases, many of which are traceable to or associated with a Gouty or Rheumatic diathesis, are effectually relieved, and in very many instances recovered, by bathing. It is generally desirable in such cases to commence with a tepid bath, and gradually increase the temperature.

In *Weakness of the Limbs*, arising from injury, in loss of power after dislocations; in the stiffness following the fixed position in which it is necessary to preserve fractured limbs, in sprains; and in the contractions of the limbs sometimes following severe attacks of fever; the employment of the Waters, in the form of a bath or douche, is efficacious in removing pain, and restoring pliability to the limbs.

During convalescence from protracted sickness, the Bath Waters may be classed among the most desirable and grateful tonics which can be taken. It was formerly almost an invariable custom for convalescents, especially for women recovering from their accouchements, to take a short course of the Waters, to restore strength, which habit of late seems to have been relinquished without sufficient reason, considering the beneficial results which followed their employment.

The above-mentioned diseases may be regarded as among

the principal in which relief or cure may be expected from the use of the Bath Waters. It would not be difficult to increase their number, but as the object was simply to indicate some of the chief affections in which the Waters are found to be beneficial, and not to state all of them or treat fully of the medicinal effects of the remedy, a longer list or more copious account of them is not considered desirable.

THE SEASON OF THE YEAR FOR USING THE
BATH WATERS.

The best seasons of the year for the use of the Waters are Spring and Autumn. The months of April, May, and June, in the former period, and the close of August, September, and October, in the latter, are the best months to resort to their employment. It is not to be understood that the waters cannot be used in winter, should the condition of the patient demand immediate relief, or where invalids who have frequented other mineral waters are desirous of quickening their recovery by a continuous use of such waters; inasmuch as every arrangement is provided for facilitating their use during the winter; but the inclemency of that season often interrupts their being regularly employed, and consequently delays the development of their curative effects, and precludes exercise in the open air which assists their action, and is used with so much advantage during the time they are employed. Reason and long experience have justified the propriety of the preference given to those portions of the year which have been mentioned as favourable for using the Mineral Waters of Bath.

CHAPTER V.

THE BATH GENERAL OR HOT MINERAL WATER
HOSPITAL.

IN any work treating of the Baths of Bath, and of the Bath Waters, it would be an omission not to notice the Bath General or Mineral Water Hospital.

This institution was established for the relief of poor persons from any part of Great Britain and Ireland afflicted with complaints for which the Bath Waters are a remedy. Its erection was commenced in 1738, but it was not open to patients until 1742; and during a period of 137 years has been the means of affording a great amount of relief to the sick and helpless. Mr. Ralph Allen, of Prior Park, delivered free of cost, from his quarries on Combe Down, all the stone required for its erection, besides contributing on several occasions large sums towards its maintenance. Mr. Wood, the architect, gave all the several draughts, plans, and other papers relating to the Hospital, together with his care, labour, and the cost of surveying and directing the building, as a free gift and benefaction; and this generous action was further enhanced by the addition of a considerable donation of money. Mr. Richard Nash, better known as "Beau Nash," was unwearied in his exertions to collect subscriptions and donations, and succeeded in a few years in obtaining more than £2,000 for the charity.

It is a NATIONAL CHARITY, and one of its peculiar features is that no interest is required to gain admittance to its advantages—no recommendation of Subscribers, Governors, or any other person. All that is necessary is, that the persons who desire admittance be in such condition of life, that the expenses attendant upon a residence in Bath would be more than could be afforded by them; that they are proper objects of charity; and that the Waters are applicable to their cases. The Hospital since the alterations and additions were completed in 1861, provides accommodation for 142 patients—85 males and 57 females. They are gratuitously supplied with medical and surgical advice, food, washing, medicines, and the attendance of nurses. In consequence of the increasing number of applicants, arising partly from the extension of railways, and partly from an increasing appreciation of the efficacy of the Waters, the want of better and adequate accommodation was much felt, and the Governors decided on making considerable alterations and additions to the Hospital, and converted the whole of the old building into dormitories, and erected male and female day wards, a feature not by any means yet common in our Metropolitan or Provincial Hospitals—a suitable chapel, and a convenient airing-ground for the patients. For effecting these objects it was necessary to have recourse to the public for assistance. As a NATIONAL, not a local charity, it has just claims upon public support. It is the only institution of its kind in the kingdom, and by its means the use of the Waters is gratuitously provided for the afflicted poor of every parish. It requires the support of voluntary subscriptions and donations.

In order to obtain admission into the Hospital it is necessary to forward to the Registrar a report of the case containing the name, age, occupation, and parish of the applicant; the name and brief history of the disease, comprising its origin, date, progress, and treatment; the present symptoms, stating the parts principally affected, and to what extent. In cases of Paralysis, the condition of the Sphincters, memory, and speech should be noted; also the state of the patient's general health; and whether the complaint be accompanied with cough or spitting of blood; Heart disease—if Valvular, the particulars should be stated; Brain disease, as evinced by Epilepsy, &c.; Acute Inflammation of any part; Fever; Abscess; Suppuration of the Joints, or Ulcer of any kind. If the case be approved by the Medical Board, it will be admitted in its turn after compliance with other regulations, such as certificates of the civil condition, &c., of the patient, forms for which may be obtained on application to the Registrar at the Hospital.

The number of persons admitted into this Institution since it was first opened, in May, 1742, for the reception of patients to May, 1879, amounts to 52,513, of which 14,701 were discharged Recovered; 27,833 were Relieved; 3,822 were No Better; 4,647 were Improper cases; 776 left at their own desire, or were discharged for Misbehaviour; and 734 died.

The number discharged in 1879 was as follows :—

DISEASES.	Recovered.	Relieved.	No better.	Improper.	At their own desire or for Misbehaviour.	Dead.	Total.
Rheumatism - - -	63	364	24	2	2	1	456
Sciatica, Lumbago, and Neuralgia -	8	63	4	1	2	...	78
Gout - - -	11	89	5	...	...	...	105
Paralysis - - -	...	13	7	1	2	...	23
Ditto from Lead, etc. -	3	18	...	...	...	1	22
Wasting Palsy - -	...	3	...	...	...	...	3
Leprosy, Psoriasis, Eczema, &c. -	14	29	4	...	...	...	47
Chorea - - -	10	4	...	...	...	...	14
Anæmia - - -	2	5	1	...	...	...	8
Hysteria - - -	...	3	...	...	...	...	3
Rigidity and other Diseases of Joints, etc.	5	15	6	...	...	...	26
	116	606	51	4	6	2	785

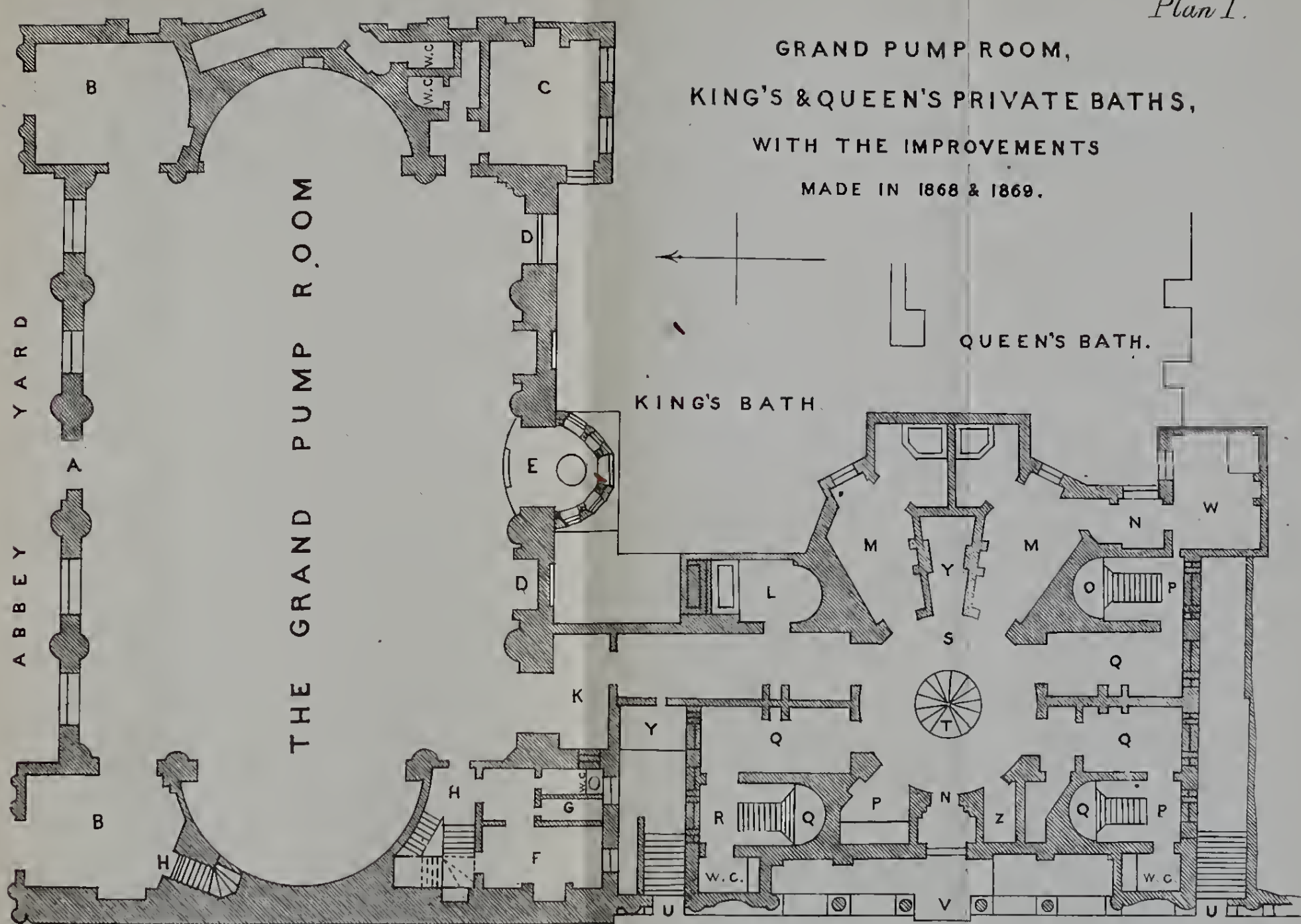
FINIS.

PLAN I.

- A. Principal Entrance, opposite to which is the
Fountain and Bar for Drinking the Waters.
- B.B. Side Entrances and Lobbies.
- C. Ladies' Room.
- D.D. Fire Places.
- F. Attendants' Room.
- G. Store Room.
- H.H. Stairs leading to the Orchestra.
- K. Entrance to the Private Baths.
- L. Reclining Bath.
- M.M. Dressing Rooms and Douche adjoining.
- N. Lobby.
- P.Q., P.Q., P.Q. Bath and Dressing Rooms.
- R. Hot Linen Closet.
- S. Vestibule.
- T. Stairs leading to Public Baths.
- U.U. Entrances to Public Baths from Stall Street.
- V. Entrance to Private Baths from Stall Street.
- W. Shower and Vapour Bath Rooms.
- X. Lobby.
- Y. Attendants' Room.
- Z. Store Room.

Plan I.

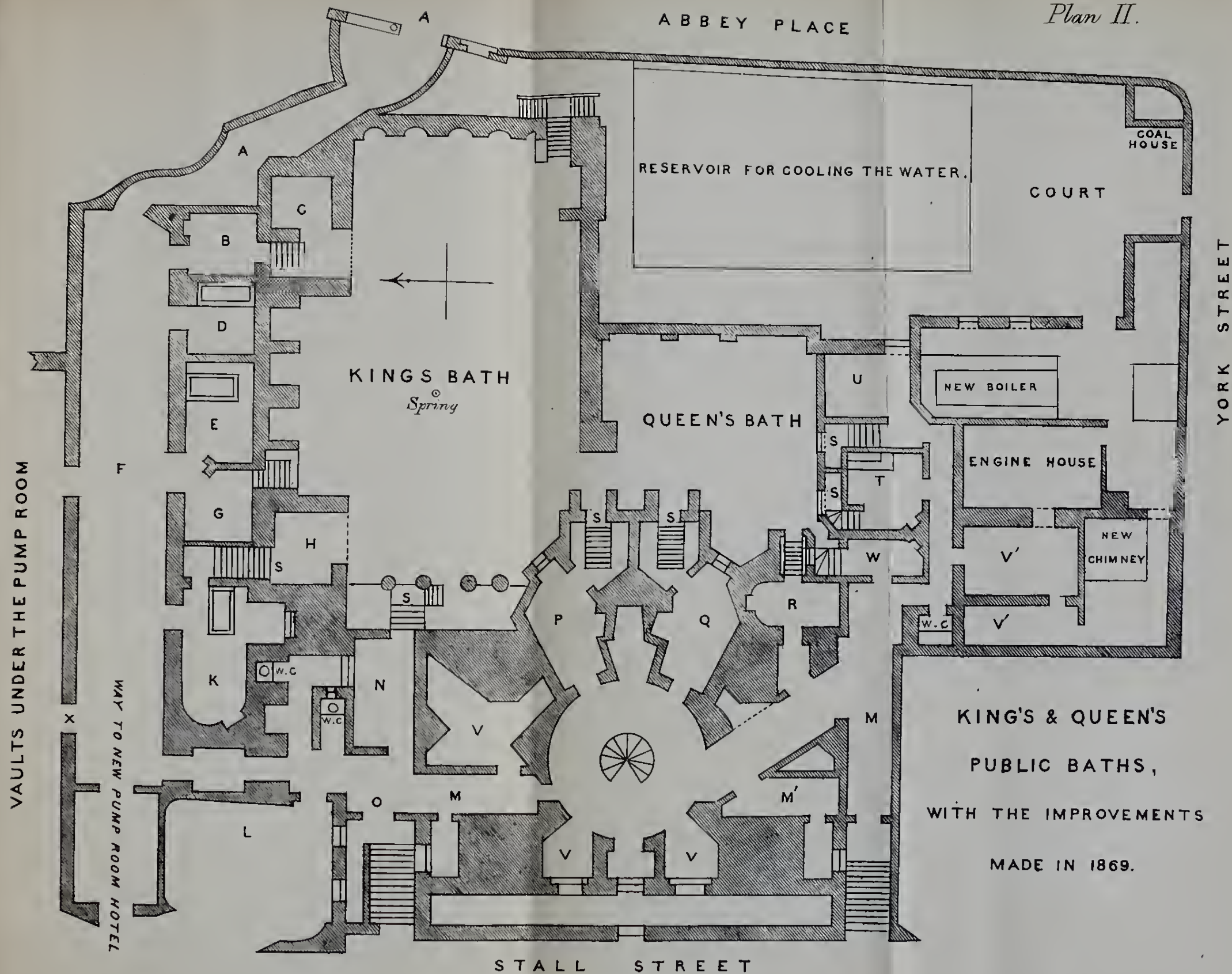
GRAND PUMP ROOM,
KING'S & QUEEN'S PRIVATE BATHS,
WITH THE IMPROVEMENTS
MADE IN 1868 & 1869.



STALL STREET

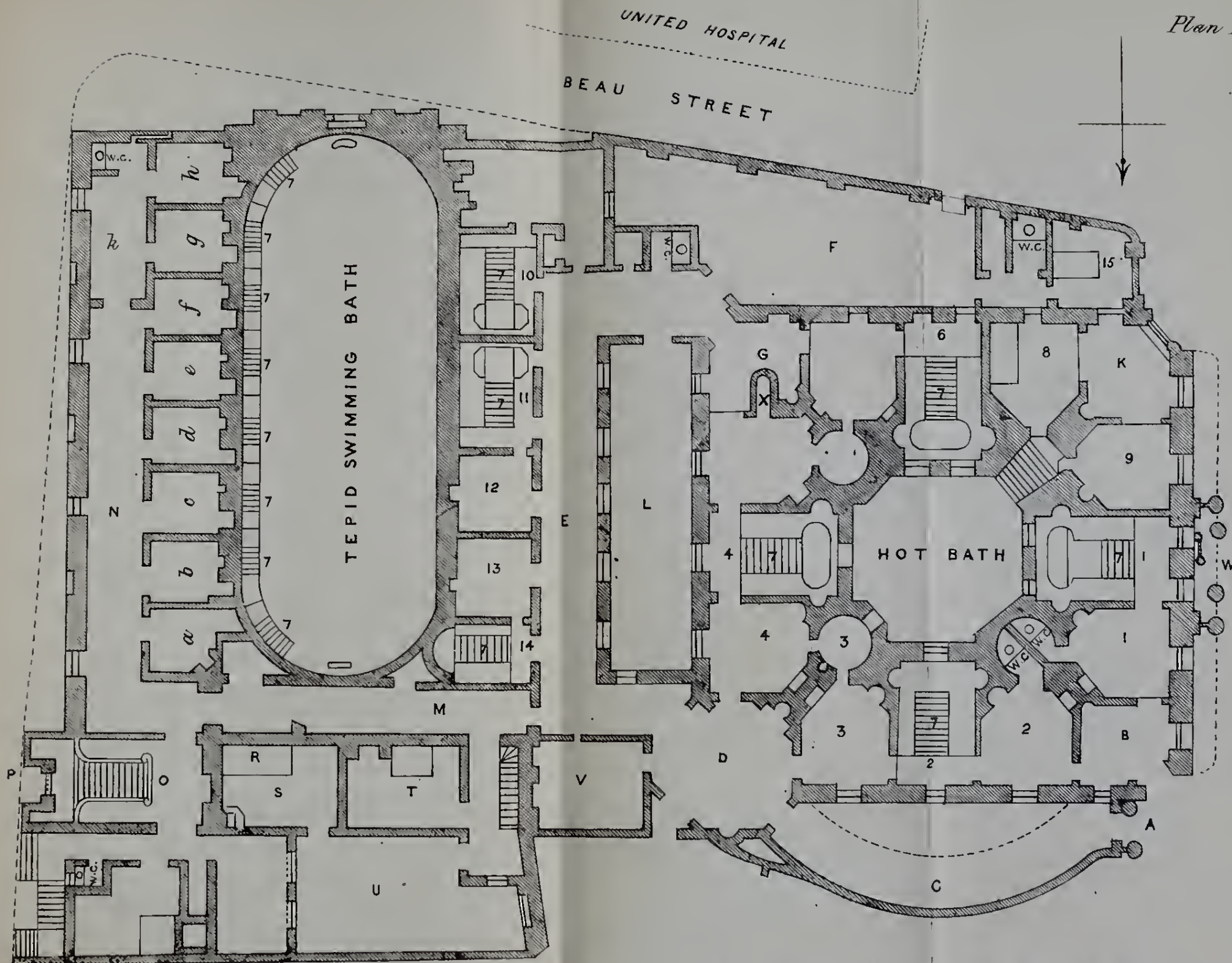
PLAN II.

- | | |
|----------|---|
| A. A. | Entrance for Wheel Chairs. |
| B. C. | Dressing Room and Bath. |
| D. E | Reclining Baths and Dressing Rooms. |
| F. | Corridor. |
| G. | Dressing Room with steps leading to the King's Bath. |
| H. | Bath. |
| K. | Reclining Bath and Dressing Room, and Entrance. |
| L. | Cellar to Bath. |
| M. M. | Passage. |
| N. | Dressing Room. |
| O. O. | Entrances from Stall Street. |
| P. Q. R. | Dressing Rooms. |
| S. S. S. | Steps into the Bath. |
| T. | Reclining Bath and Dressing Room, with steps leading into the Queen's Bath. |
| U. | Dressing Room, with steps leading into the Queen's Bath. |
| V. V. V. | Offices. |



PLAN III.

- A. Entrance.
- B. Coal Cellar.
- C. Attendants' Room.
- D. Lobby.
- E. Closet.
- F. Urinals.
- G. G. Steps into the Bath.
- H. H. Entrances to Bath for Plunging from.
- 1 to 13. Private Dressing Rooms.
- 14. Public Dressing Room.



THE ROYAL PUBLIC & PRIVATE BATHS. 1871.

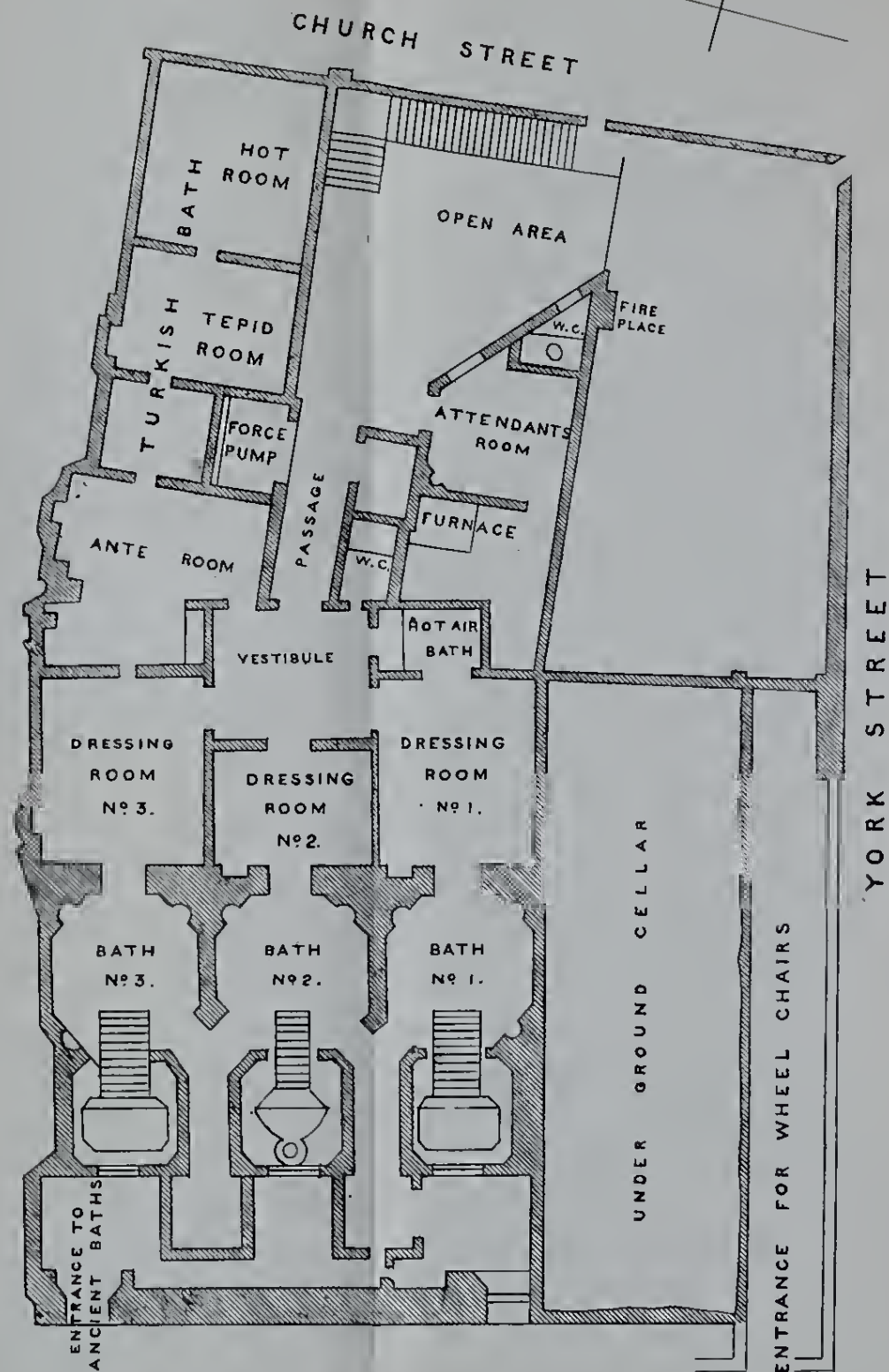
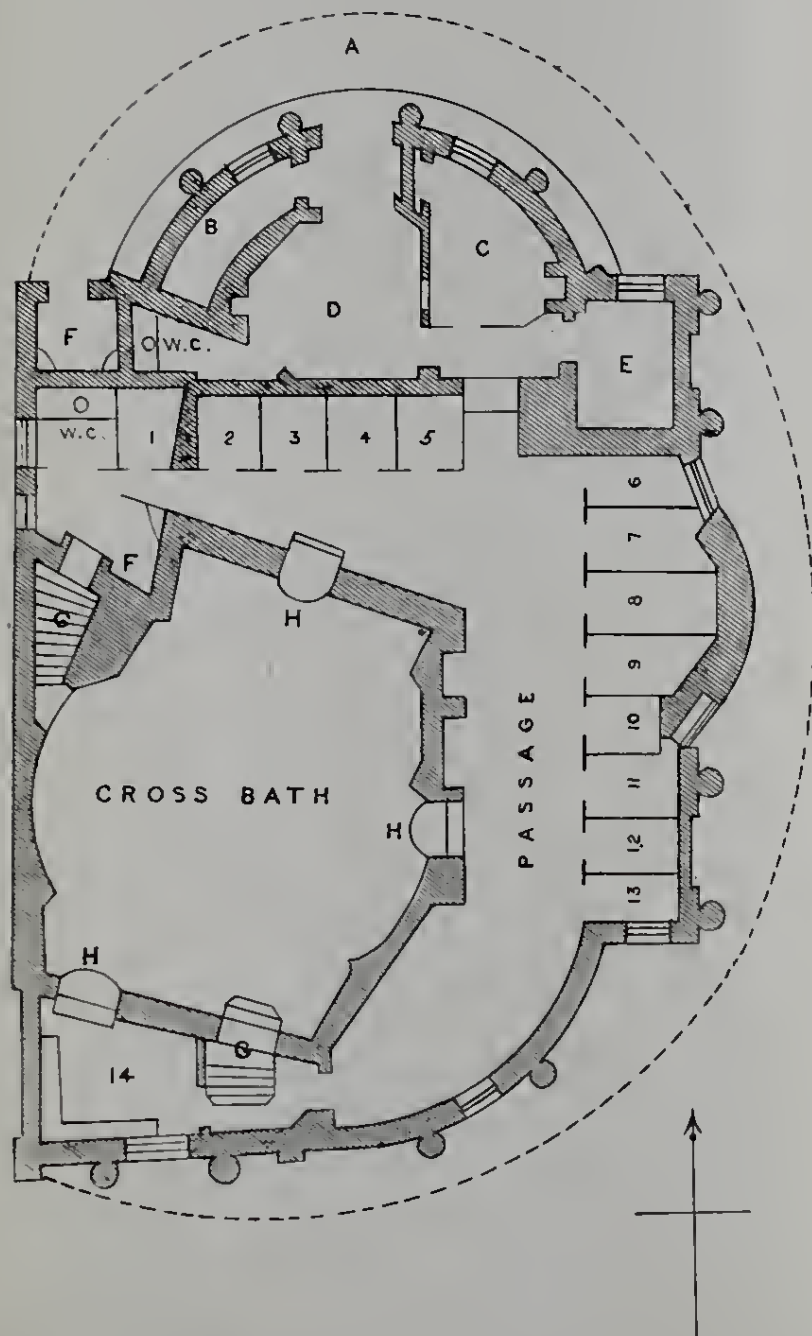
PLAN IV.

- A. Entrance to Royal Private Baths.
- B. Lobby.
- C. Covered Entrance.
- D. Vestibule.
- E. Corridor.
- F. Yard.
- G. Lobby.
- H. Entrance to Hot Bath.
- K. Lobby.
- L. Open Area.
- M. Passage to Swimming Bath.
- N. Corridor.
- O. Lobby.
- P. Entrance from Bath Street to Swimming Bath.
- Q. Coal Cellar.
- R. Engine Room.
- S. Laundry.
- T. Hot Closet.
- U. Yard.
- V. Attendants' Room.
- W. Pump for the Supply of Mineral Water.
- X. Shower Bath.
- 1. 1. Bladud's Bath and Dressing Room.
- 2. 2. Alfred's Bath and ditto.
- 3. 3. Dressing and Douche Room.
- 4. 4. Dressing Room and Chair Bath.
- 5. 5. Ditto, and Lavement Room.
- 6. 6. Edwin's Bath and Dressing Room.
- 7. 7. 7. Steps into the Bath.
- 8. Reelining Bath.
- 9. Dressing Room.
- 10. Bath.
- 11. 12. Bath and Dressing Room.
- 13. 14. Ditto Ditto.
- 15. Reelining Bath.
- a. to f.* Private Dressing Rooms.
- g. h. k.* Public ditto.

THE KINGSTON
OR OLD ROMAN BATHS.

Plan IV.

THE CROSS BATH.



PLAN V.

CORRIDOR BATHS, ETC.

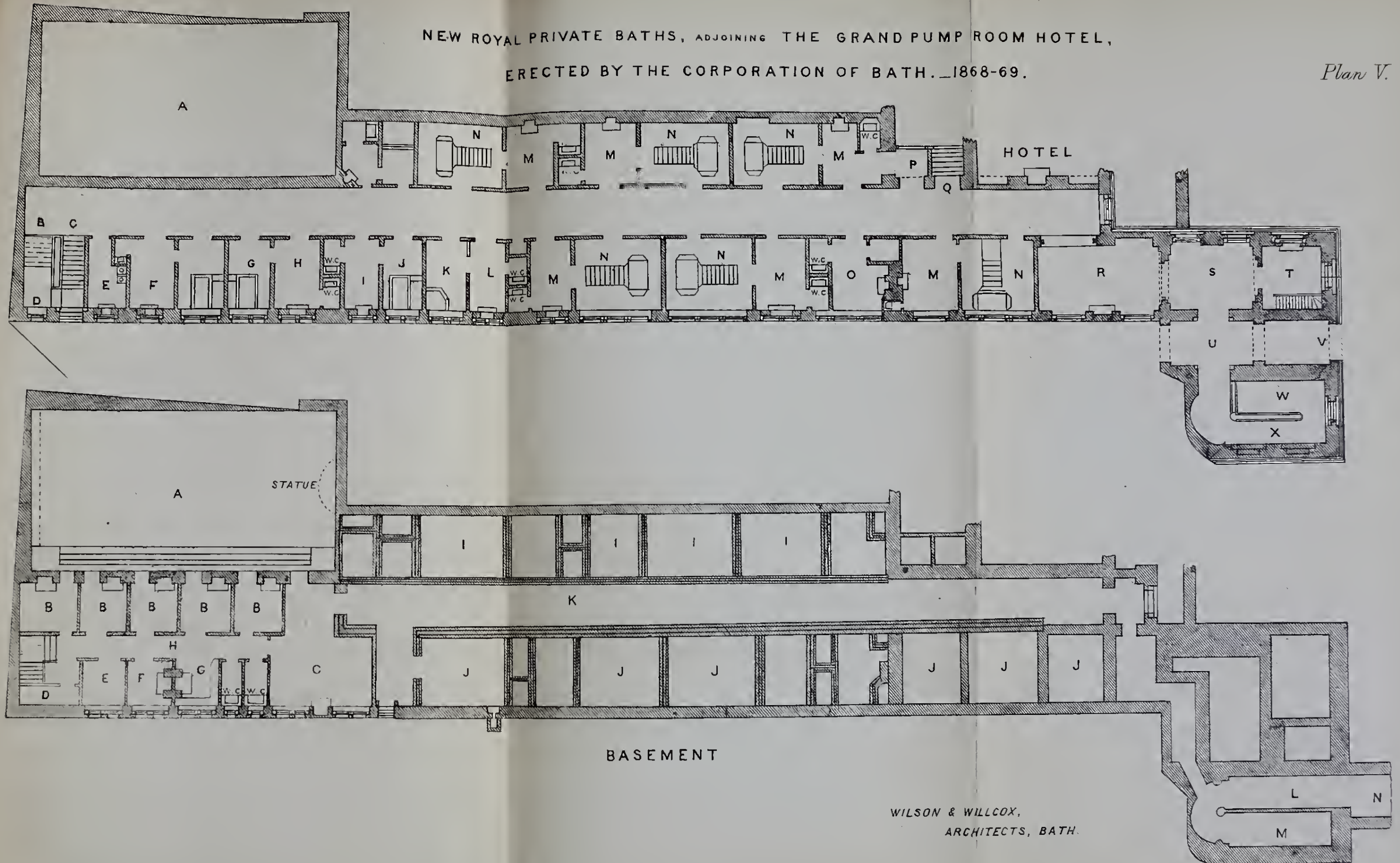
- A. Space over Swimming Bath.
- B. C. D. Stairs leading from Corridor to Swimming Bath.
- E. Enema Apparatus, and Hot Linen Closet.
- F. Dressing Room, adjoining Reclining Bath.
- G. Reclining Bath.
- H. Dressing Room.
- I. Dressing Room.
- J. Reclining Bath.
- K. Dry Douche Room ; nearly opposite this is another
Dry Douche Room and Dressing Room.
- L. Hot Closet for Linen.
- M. M. M. Dressing Rooms, six in number.
- N. N. N. Bath Rooms, six in number, including a Chair Bath.
- O. Vapour and Shower Bath Room.
- P. Lift to upper rooms of the Grand Pump Room Hotel.
- Q. Steps leading to vestibule of the Grand Pump Room
Hotel.
- R. Waiting Room.
- S. Vestibule.
- T. Attendants' Room.
- U. V. Passage under the Hotel.
- W. X. Ticket Office.

BASEMENT.

- A. Swimming Bath.
- B. B. Private Dressing Rooms, five in number.
- C. General Dressing Room.
- D. Stairs to Swimming Bath.
- E. Hot Closet for Linen and Drying Room.
- F. Attendants' Room.
- G. Store Room for Bathing Dresses.
- I. J. K. Store Rooms
- L. N. Passage communicating with the King and Queen's
Baths
- M. Store Room.

NEW ROYAL PRIVATE BATHS, ADJOINING THE GRAND PUMP ROOM HOTEL,
ERECTED BY THE CORPORATION OF BATH. 1868-69.

Plan V.





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